

THE CULTIVATOR

THIRD]

TO IMPROVE THE SOIL AND THE MIND.

[SERIES.

VOL. XII.

ALBANY, N. Y., MARCH, 1864.

No. 3.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

TERMS—SIXTY CENTS PER YEAR.—Ten copies of THE CULTIVATOR and Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each free to the Agent, Six Dollars.

THE CULTIVATOR has been published thirty years. A NEW SERIES was commenced in 1853, and the eleven volumes for 1853, 4, 5, 6, 7, 8, 9, 60, 61, 62 and 63, can be furnished, bound and postpaid, at \$1.00 each—the set of 11 vols. sent per Express for \$8.25.

"THE COUNTRY GENTLEMAN," a weekly Agricultural Journal of 16 quarto pages, making two volumes yearly of 416 pages, at \$2.00 per year, is issued by the same publishers.

The Cultivator & Country Gentleman.

CONCENTRATED FARMING.

Our readers are familiar with the arguments which have appeared in our columns during the past two or three years, relative to the comparative advantages of large and small farms. The result may be briefly summed up by saying that a farm is too large (if only twenty acres,) when there is not enough surplus capital to give it the very best management; and not too large, even if containing a thousand acres, if the owner is able to raise maximum crops, and to conduct every part as well as the most perfect small farm. The prevalent error is the attempt to spread over much land with little means. If every one could be satisfied that he may be an extensive farmer on but a few acres, there would be less running in debt for land, and less imperfect, weedy and superficial cultivation.

There are several advantages in raising heavy crops on a limited amount of land, and several disadvantages in raising the same amount on a more extended area. It is easier to obtain eighty bushels of corn from an acre of the best land, than the same amount from four acres of poor and badly cultivated ground—the plowing and general management of the good land being about as easy per acre as the other, or only one-fourth the expense per bushel. The distance of drawing manure, drawing in crops, driving cattle to pasture, and every other operation, are much lessened on the small and well managed farm. On the whole, it is much more economical to buy land at double price that will produce double crops; or better to expend as much more as the cost of the land in under-draining and manuring, if, as frequently happens, the productive power of the soil may be doubled.

Farmers are often not aware of the amount which a moderate farm may be made to yield in the best condition and under the best management. We propose therefore, to take as an example fifty acres, allot

it to different crops, assign to each an acreable product, not greater than the average amount obtained by the best farmers, and thus show what may be the result.

While the average corn crop is not over 40 bushels, there are many who obtain seventy and upwards as a yearly average. While wheat usually yields only fifteen or twenty bushels, such good farmers as John Johnston have obtained an average of thirty or more. While many landowners cut scarcely a ton of hay per acre, such men as Major Dickinson raise an average of three tons. If the hay crop is tripled, the amount of pasturage will be increased in like proportion. Many cultivators who attempt to raise carrots and other roots, often fail by planting late or on hard and cloddy ground, or by neglecting weeds, and when they succeed get only two or three hundred bushels per acre; others, by a good previous preparation and by proper cultivation, confidently rely on at least eight hundred bushels per acre.

Now having premised these admitted facts, let us see what the fifty acres may be made to yield:

10 acres meadow, 30 tons,	\$240
10 do. pasture, 15 cattle five months, say \$2 per month,	150
10 do. wheat, 30 bushels per acre,	450
10 do. corn, 70 bushels, at 75 cents, fodder \$3 per acre,	555
2 do. corn fodder in drills, five tons per acre,	60
2 do. carrots, 800 bushels per acre, 15 cents per bushel,	240
1 acre ruta bagas, 600 bushels, 16 cents per bushel,	96
5 acres winter apples, 200 bush. per acre, 25 cts. per bush.,	250
	\$2,041

Several other crops could have been added, giving greater variety, but the above will answer as a specimen of what may be raised. The market values of the products will vary with localities, as well as with the mode of marketing; for example, the corn as fed to animals by some farmers, would yield a less value, while with others the value would be considerably increased, as, for example, by the mode of manufacturing pork described by N. G. Morgan in the Illustrated Annual Register for the present year, by which he uniformly obtains a dollar a bushel when pork sells at five cents per pound. The improved condition of domestic animals, the increase in the richness of milk and butter, &c., caused by feeding carrots in connection with dry fodder, would doubtless give more value to these roots than stated above. Only five bushels per tree are estimated from the apple orchard, a much smaller amount than the average of the most productive sorts under the best management. The crop of carrots is large, but a larger yield has been obtained on an inverted, rich clover sod, manured well the previous autumn, plowed early the following spring, in connection with subsoiling, and started a fortnight be-

fore common corn planting. On the whole, we think it will be safe to estimate a product of \$2,000 for the fifty acres, arranged in such a mixed course as would be adapted to a good rotation. As already premised, the land must be in the very best condition to accomplish this result—well under-drained, full of vegetable matter from the roots of previous crops, well supplied with the manure from the animals which such crops would sustain, and the whole under energetic and seasonable management. It is obvious that the net profits of such a farm would be much greater than from the same amount of crops raised, as is commonly the case, on 200 acres; those who have been accustomed to such products as the latter, will, of course, be incredulous as to the amount which may thus be obtained, but as before stated, the thing has been already done, and exceeded in numerous instances.

And yet there are many land-owners in the most fertile districts, who would be quite unwilling to be pent up on a fifty-acre farm; forgetting that they could clear more than a thousand dollars every year from its surface. We know a small farmer, who occupies only eleven acres, and yet sells from it a yearly average of \$200, besides the amount consumed by his small family. One year he sold \$300 worth; this is a larger amount than we have indicated in the preceding estimate.

A large farm has some important advantages over a small one, especially in the facilities for using expensive farm machinery. But what we wish particularly to urge, is to farm as extensively as possible on the given number of acres occupied by the owner. For example, he would be the more extensive farmer who should raise \$4,000 from 100 acres, than he who should raise \$3,000 from 300 acres. The former is the kind of large farming we wish to see introduced, even if the owner possesses a domain of a thousand acres and upwards. It has many advantages; among which are, the less amount of travelling to go from one field to another; the shorter distance passed by teams in manuring, plowing, and drawing in crops; the comparative ease with which such a farm may be superintended, and, consequently, the greater perfection of that superintendence; and lastly, and by no means the least, the increased compactness of neighborhoods, virtually shortening public highways, and bringing all markets nearer to hand; for if the crops of a large region of country are doubled, the villages and towns, and all the facilities connected with them, will also be doubled, or to speak otherwise, all these facilities and conveniences will be brought within one-half the distance to every farmer.

SOME HINTS ABOUT FENCES.

It has been justly observed that "a good fence is a defence, and a bad one an offence." This will apply especially to line fences between neighbors whose animals often get their owners into serious trouble, and the owners themselves frequently contend that the fence is three inches too far on one side or six inches too much on the other. While thus so scrupulously accurate in quantity, both of them allow whole acres to run to waste for want of drainage, or to be consumed by thistles, mulleins, johnswort, &c., and the very fences themselves encumbered by half a rod in

width of elder-bushes and nettles. This, as the boy said, is "straining at a gate and swallowing a saw-mill." One thing is certain, however, that all farmers should have their boundary lines well understood. The lines should be accurately run and agreed upon by both parties; locust or cedar stakes driven into crow-bar holes, and piles of stones placed around them at every elevation of ground, so that the whole line may be distinctly marked out. Then let the parties build a fence that orderly animals will never leap or throw down. One of the best for this purpose is a strong, high, board fence, made of stout posts, capped on boards nailed on each side of the posts at the top, as shown in cross-section in the annexed figure. If either of the parties have any unruly animals, they should be stall-fatted, if cattle, and sold to the butcher, or kept constantly stabled, if horses. So much for line fences.



It has been estimated that the farm fences of the whole Union have cost \$500,000,000, and that in the State of New-York alone, the zig-zag fences so commonly built, occupy at least 300,000 acres of cultivated land. It is a matter of some little importance, therefore, not to build any more than is necessary. Many farmers cut their farms into ten-acre fields, when fifteen or twenty-acres lots would answer every practicable purpose. The practice of under-draining, so as to render the whole farm capable of being cultivated alike, would reduce the necessity for many sub-divisions. There are very few courses of rotation requiring more than five or six fields, and no place of 150 acres should, as a general rule, have less than twenty-five or thirty-acre fields. This would save much inconvenience in plowing, as well as save much land; but a more important advantage is in bringing a large surface under the plow which would otherwise grow up to briars and bushes. Nothing appears worse on a farm, and nothing is really worse than to make the borders of fences the receptacle of everything foul and unsightly, such as heaps of stones, piles of brush, torn-up weeds, &c., which encourage the growth of burdocks, elders, and other weeds and bushes. Every fence should, therefore, be perfectly straight, so that the plow may pass near it, and the whole be kept neat and clean; or else, if crooked, it should be portable, so as to be occasionally removed a rod or two one way or the other, and thus admit the cultivation of the whole surface. We have known several years to be spent before the roots of weeds and bushes could be entirely cleared from land where old fences had stood.

Before closing these remarks, we may as well make a few practical suggestions, suited to this season of the year. First, select a mild day, and adjust all your line fences with your neighbors, if not already done; and do not be very particular to get the last inch, but rather show a spirit of liberality, and make up the difference by draining that swale and clearing out those acres of worthless bushes and weeds. Also, do not crowd on the public highway. Secondly, examine all your fences and see if they are in perfect repair; and draw boards or rails as the case may require, for any deficiency. Thirdly, take a basket of nails in one hand and a hammer in the other, and passing along every board fence, nail every part that is loose or ap-

pears likely to become loose. A well-made and well-kept post and board fence will last some twenty years or more without much attention, and after it begins to give way it may be strengthened for several additional years by nailing vertical boards or facing on the boards against each post.

COOKING FOOD FOR CATTLE.

MESSRS. LUTHER TUCKER & SON—Having been repeatedly called upon for information in relation to the system adopted on my farm, of cooking food for neat stock, I propose giving a detailed description of my steaming apparatus and its operation, to be followed by a statement of my mode of feeding, with the results obtained. I shall also add such testimony from other feeders of steamed food, as I am able at short notice to gather, trusting that what I may write will call out fully the views of those persons who have had more experience, and have made critical experiments with this mode of preparing provender.

At this time of extreme prices, with hay at twenty-two to twenty-five dollars per ton; corn at one dollar and forty cents, and oats at eighty-five cents per bushel, the present prices in this locality, every species of provender should be made to yield of its nourishing qualities all that is possible. If the application of steam will tend to this result, and we can feed from twenty-five to fifty per cent. more stock with than without it, certainly it is desirable that its merits should be generally known.

I commenced as early as the winter of 1858, to cut up all the long provender intended as food for my cattle, my stock at this time consisting of thirty cows and heifers, three pairs of oxen, and ten or more yearlings or calves.

My practice was to fill two large feed boxes, one with English hay, the other with cornstalks and straw chopped; this was wet with cold water, and a small quantity of wheat bran, or corn and cob meal, added. This was regularly done after one feeding, preparatory for the next, giving all the time possible for the water to be absorbed by the mass; at this time I adopted the practice, from which I have never had occasion to vary, of feeding but three times a day. I became so well satisfied of the economy of cutting and wetting feed, that the following winter I decided to use hot instead of cold water. Two large kettles already set in the hog-house, but a short distance from the barns, enabled me to do this with little inconvenience; the food in the boxes, after the application of the hot water being closely covered, underwent a sort of steaming process, which rendered it very palatable to the cattle.

I had the previous season increased my herd by the purchase of twenty-five animals; these, in addition to my previous stock, gave me about seventy head to winter; with a much smaller herd I had been obliged to purchase largely of provender, in addition to my own crops, and expected of course, that the keeping of an additional number would be attended with proportionally greater expense. To my astonishment, however, the hot water and cutting system enabled me to winter the stock with less expenditure for provender than ever before. To be sure my farm was yearly increasing in fertility and productiveness, and a due por-

tion of the credit must be attributed to that; a fair share remained for the new mode of feeding, however, which decided me to put a steaming apparatus into my barns.

In the fall of 1860, after consultation with Mr. Wm. Birnie of Springfield, Mass., to whom belongs the credit of having first successfully introduced the practice of steaming food for neat stock, in New-England at least, I put in my present steam works, and feeling satisfied that they would prove a good investment, I had the work thoroughly done. They are now being used for the fourth season. The whole expense, including a large chimney thirty feet in height, standing outside and independent of the barns, was \$300. Thus far the repairs have not cost me \$10.

In the barn cellar is placed an upright tubular boiler about 3 feet in diameter, with flues some 4 feet in length. It is inclosed with brick, which serves to retain the heat and make a saving of fuel. The flue from the boiler furnace passes under ground to the chimney. The boiler room is enclosed with a brick wall, and the ceiling is covered with old tin roofing. The fuel used is anthracite coal, and the risk from fire was considered so slight that the insurance premium was not increased when the works were put in. A safety valve was attached to the boiler, the pipe conveying the steam ($1\frac{1}{4}$ inch in diameter) passes through the floor above, where it branches, leading to a steam box or tank in each of two barns which connect at the corners; drop pipes, to which are attached flexible hose, are placed near each tank; these can be introduced into barrels with closely fitting tops, in which may be cooked roots and meal for hogs or other animals; one of them is in constant use for steaming oats for calves. The supply of steam, which is conveyed to the bottom of the tanks, is regulated by valves in the pipes which pass around on the inner side of the tank about three inches from the bottom; two other pipes run across; the outer ones are perforated on the inner side with holes of about one-sixteenth of an inch in diameter with a space of 4 inches between them; the cross pipes have holes on each side. By this plan all the food gets the full benefit of the steam. There are two objects in keeping the pipes away from the bottom of the tank, viz., to prevent the water, which is sometimes two or more inches deep, from overflowing them, and for the more convenient removal of meal and other matter collecting under and around the pipes.

The tanks, about 6 by 8 feet in size, and $4\frac{1}{2}$ feet high, are made of matched chestnut plank, 2 inches in thickness, and are placed in the barns so that the top is level with the scaffold, while the bottom is some three feet from the main floor. A door in the side, $2\frac{1}{2}$ feet square, is opened when the steamed food is to be removed, when a feed box on wheels is brought close to the tank, and enough feed is drawn out after one meal so serve for the next, giving time for the hot provender to become sufficiently cool for the cattle to eat.

When a tank is to be filled, the door at the side is placed in position (not being on hinges) and securely fastened by wedges driven behind bars of wood which pass across on the outer side of the door; this is necessary to prevent the escape of steam through the cracks. Two-thirds of the top of the tank is hung on hinges, and turns up like a trap-door; through this opening the material to be steamed is introduced.

About 25 bushels of chopped straw, cornstalks or such provender as is proposed to steam, is first placed in the tank. This is thoroughly wet down with water drawn through a gutta percha hose from large casks located above the level of the tanks, and which receive their supply from the aqueduct. Some bran or meal is next scattered over the food, all of which is well forked over, in order that it may be thoroughly mixed; more is added, which undergoes the same treatment, until the tank, holding about 100 bushels, is closely packed; the upper door is then closed and wedged by long pieces of board fitting between it and a beam overhead. The fire is next made under the boiler, and by the time that the second tank is filled, the steam is up, and the valves are opened. The fire is kept up about six hours for cornstalks, while four answers for hay and straw. The fuel used being hard coal, no danger is feared from fire; and through the winter it is our custom to make up a good fire four evenings in the week, which is as often as we steam, and leave the barns for the night, which in the morning are found comfortably warm, and the tanks filled with steaming hot food, sending out an aroma as from newly baked brown bread.

In preparing the provender for the tanks the cornstalks and straw are chopped in lengths of about three-quarters of an inch, in a "Daniel's cutter," driven by two horses in a tread mill. The machine works well, and is capable of cutting enough in eight hours to last seventy-five head of cattle a week. The hay is cut in lengths of about three inches on the high scaffold, in an "Eagle cutter," the chopped food falling directly into the tank.

It is essential that the provender be thoroughly wet before cooking, for, contrary to what would seem a natural supposition, dry food becomes more dry by steaming.

From the time that my steam works were first put in, I have not failed to keep them in constant use through the foddering season until this winter, when, having an unusual supply of good hay and rowen, with a small amount of coarse provender, I decided to dispense with their use for a time; for the past few weeks, however, I have been steaming as usual; and where it was estimated that one ton of good hay, valued at twenty dollars, was daily fed, in a dry state, to my stock of cattle, numbering one hundred and fifteen head, we are now feeding but a small portion of that weight or value of provender; the cooked food being principally corn stover.

Once during the winter of 1860-61 the provender required to fill my steam tanks was carefully weighed, an account was kept of the number of meals made, when cooked, for the different classes of cattle. By this course I was enabled to estimate, with a reasonable degree of accuracy, the amount of food in pounds consumed by each animal; also the value of the same estimated at the prices then current. I endeavored to be liberal in my computation, as the experiment was made for my own satisfaction. To my dry cows, young stock and oxen not working, I fed at the time of the trial, stalks from field corn, cut up at the roots, chopped fine by horse-power, and steamed with clover hay and a little corn and cob meal, using three quarters in quantity of stalks and barely one quarter of clover hay. I valued the latter at fourteen dollars per

ton, corn stover at seven dollars, and corn and cob meal at one cent the pound. To the milch cows and working oxen, the provender consisted of equal quantities of English and clover hay, with cob meal; the cooked food was fed out with the following results:

Heifers and bulls coming two years of age the following spring, consumed on the average each day, 10 20.100 pounds of stalks and hay, and 80.100 pounds of corn and cob meal, costing 6 5.100 cents for each. Dry cows, 17 pounds of the same preparation, and 1 23.100 pounds of cob meal, cost 8 77.100 cents. Oxen not working, 20 40.100 pounds of stalks and hay, with 1 60.100 pounds of meal, cost 10 52.100 cents. Cows in milk had 17 50.100 pounds of hay without stalks, 4 60.100 pounds cob meal, cost 16 85.100 cents. Oxen averaged, with three and four years old steers all at work, 21 pounds of hay with 4 70.100 pounds cob meal, cost 19 40.100 cents. Calves, coming one in the spring, received 7 50.100 pounds of hay, 80.100 pounds of cob meal, value 6 5.100 cents—add for oats and oil meal 50.100 cents, cost per day 6 55.100 cents.

There should be added to the expense of keeping each animal 1 75.100 cents, being the cost of steaming, allowing for the labor of one man eighty cents per day, coal twenty cents, depreciation and interest on steaming works, twenty per cent. on three hundred dollars, which equals thirty-three cents a day, allowing the works to be in use one half the year.

At the present time, the value of the provender in the foregoing experiment would be increased materially, but the comparative cost of steamed to dry food would be the same as when the computation was made, excepting that it might be proper to add forty cents per day to the wages of the man, and ten cents for increased cost of fuel. It will be noticed that the cost of keeping the animals fed on steamed hay is considerable, though much less than with dry fodder, the great and peculiar advantages of steaming being seen in the small expense of food for the dry cows and young stock. For myself, having a great deal of good hay, with very little of a coarser character, I cannot derive all that benefit from the application of steam, that will be found to result from its use on a farm where much coarse provender is raised, and I am well satisfied that no farmer who has much of such products can afford to be without steaming conveniences. These may be constructed in extent and value corresponding with the means of the farmer and the amount of stock he keeps. A set kettle in the barn, cellar or shed, with a tight cover of wood, and a pipe of the same material, conveying the steam to a box or hog-head in the barn, could not cost over ten dollars, and would answer a good purpose for a few animals. This arrangement might be adopted by way of trial, by one who would look for the profits of the system described, but who might be sceptical as to the results.

I think well of cooking all food for cattle, not excepting good hay. Still the chief benefit arises from steaming the coarser products of the farm, or what is often considered as no more than refuse; the stalks of corn for instance, instead of being wasted as provender, and a nuisance in the manure heap, may be rendered a useful and nutritious article of food, and if properly treated, will be entirely consumed by the stock. Rye or wheat straw and the coarsest kinds of swamp hay can be made to contribute to the suste-

nance of animals, in a manner surprising to those who are unacquainted with the improvement made by steaming them. I consider corn stalks, when cooked, worth as much as good hay, dry, and more than rank herds-grass, which, by the way, is one of the articles much improved by steaming.

My own opinion is that the stalks from an acre of land where corn is grown for the grain, are worth more to the farmer than the English hay that can be grown on an acre in the same average state of fertility, and I should prefer, for the production of milk, that my cows should receive daily ten pounds of stalks and five of good hay, steamed, rather than fifteen pounds of good hay in a dry state.

It seems to be generally understood that it is not an object to steam roots. I think if they could be mixed with the dry provender before steaming, that the juices which they part with might be absorbed. It would be good economy to cook them, but if they are to be cooked by themselves, and their juices wasted, it would doubtless be better to feed them in a raw state.

Lest it may be supposed that I am alone in entertaining so high an opinion of cooking food for cattle, I will extract a few sentences from letters lately received from gentlemen who have pursued the same course of management. Mr. BIRNIE of Springfield, Mass., to whom I have alluded as a pioneer in this mode of feeding, and who keeps from forty to sixty cows, says:

"I began to steam in 1858, previously weighing the fodder that was fed to my cows; the consumption was from twenty to twenty-four pounds per head a day. After my steaming arrangements were perfected, weighed again, when the consumption was less than nine pounds. The same quantity of meal and roots was given in both cases. I think I have never, from that time until the present, fed to exceed ten pounds of fodder per day to a cow, and one-half of that is either corn-stover or straw."

He adds: "If deprived of my steaming arrangements, I should be obliged to dispose of one-half of my stock, and I am now keeping double the number of cattle of any of my neighbors, some of whom cut even more hay than myself."

Mr. B. says: "The first year of my steaming, my tank held but one day's supply of feed, and being unwilling to steam on Sundays, the cows were fed on that day with good hay and an increased quantity of meal. The invariable result was the falling off in the yield of milk of nearly a quart to a cow, and it took a day or two of steamed food to bring them back to the old flow. This was the weekly experience, and before the next winter I enlarged my steam tank so that it would hold a two day's supply of food. The result was a uniform daily flow of milk."

Dr. GEO. B. LORING of Salem, Mass., who has a herd of sixty cows, writes:

"For dairy purposes I consider no food more useful than corn-fodder, cut fine in a hay-cutter, mixed with shorts, water, and a very little meal, and cooked by steam, and at the present prices of hay it is the most economical mode of feeding for the winter. I would rather have a ton of corn-fodder, with a given amount of meal and shorts, properly prepared by steam, for the purpose of fattening or of making milk, than a ton of English hay fed dry, with the same amount of meal and shorts.

"For coarse fodder then, corn-fodder, straw, coarse, late cut herds grass, rye grass, and such articles of food, I consider steaming invaluable, and it should be re-

membered that it is fodder like this which can be raised most easily, and in greatest abundance. It has hitherto constituted the *refuse* of the farm. It may be converted into the best of food, while the hay-mow remains untouched and waiting for transportation to market."

Mr. H. S. COLLINS of Collinsville, Conn., writes:

"I commenced steaming food for cattle in the winter of 1856-7, and succeeded so well as to induce me to enlarge my building and incur considerable expense in boiler, engine and machinery, which I have kept in use until this time, and I expect rather to enlarge and perfect than to give up steaming. I find steaming food profitable for the following reasons: It increases and sustains the flow of milk throughout the winter months, which, to one selling milk, is a great desideratum. I have kept (on steamed food) native cows coming in in November and December, through the winter with a loss of only 3 or 4 quarts from their first flush, and some of my Ayrshires have done even better, one of them going through the entire winter without any diminution of milk whatever.

"I am also enabled to use cornstalks and straw, which cost me about one-half as much as hay, leaving a saving of one-half to pay for labor, fuel, interest, &c."

I have much more most interesting and valuable matter contributed by the gentlemen from whom I have quoted, but this article is already very long, and I leave the subject to the candid consideration of intelligent farmers.

HENRY H. PETERS.

Southboro, Mass.

A Preservative Preparation for Leather.

If some down-easter would invent, publish or manufacture and furnish the California trade with some cheap chemical or other preparation, which, when applied to shoes or other kinds of leather, would protect and preserve them from the action of alkaline substances, which so generally abound through this vast region of mineral, agricultural and grazing country, he would confer a favor upon the public in general, and might secure a competence and even a fortune for himself.

These alkaline substances are composed of saleratus, salt, soda, potash, &c. Oil and grease, when in contact with these alkalines, undergo a chemical change, and the leather, which contains it, also becomes rotten and worthless in a very short time.

Hair oil and "soap-lock gentlemen" are of no account here. The earth and air is impregnated with alkaline dust. California wools are generally more dry, being of less weight in consequence of the chemical action on the oil in the fleece.

El Tejon, California.

S. W. JEWETT.

How to Make Good Butter from Frozen Cream.

Before churning, put the cream into a tin vessel and put it over a kettle of boiling water. Bring the cream to a scalding heat. Let it gradually cool to a temperature of 60°; then churn.

If you want a rich yellow color, finely grate two common sized carrots to a gallon of cream. Put a little water to the pulp, thoroughly extract the juice, and put this into the cream and churn. MRS. C. G. T.

The Country Gentleman.—I never fail to let my neighbors know that I take what I suppose to be the best agricultural paper published in the United States. I frequently allude to some extra article in your paper, which I would not miss of seeing for the price I pay for the whole year. I suppose there are various reasons why they do not take an agricultural paper, the most prominent of which is, they are penny-wise and pound-foolish.

NATH. P. ATKINSON.

THE IMPHEE SUGAR CANE.

Its Successful Culture in New-York—Sprouting the Seed—Harvesting—Expressing, Boiling and Clarifying the Syrup—Product per Acre.

We have tried the sugar cane. It has proved a success, making a syrup equal to sugar for nearly all culinary purposes. In times like these, when high prices for all the necessities of life rule the day, it behooves each one to look about, and see if possible wherein he may retrench his expenses. Sugar has become one of the necessities of life—sugar is high. Time was long ago when "*real boughten sugar*" was only used for special occasions. Now however, the case is altered; scarcely a meal is served up throughout our whole land, among rich or poor, without sugar entering as a component part. Now each farmer can raise his own sugar as easily as he can raise an equal breadth of corn or potatoes, and with a profit of at least three times as great. The variety raised here was the Imphee. The Sorgho was tried here several years since—also last season, with not very favorable results. The Imphee is rather a smaller variety, although far richer in saccharine juices. Mr. G. W. Dickerson, who has a mill here, experimented with the two kinds. A load of the Sorgho gave but one-half the quantity of syrup as was obtained from an equal quantity of the other variety. A great drawback upon cane planting here, has been its tardiness in germinating; consequently its lateness in ripening, and liability to hard freezes before ripening sufficiently to cut up. Sugar cane need not however be perfectly ripe to make syrup, although the more fully the cane is matured the better the quality and greater the quantity. Now to cause the cane seed to germinate and grow quickly, procure the seed a week or so before wishing to plant, and sow it something as you would onion seed. Place the seed, with about an equal quantity of plaster, in a small bag and immerse it in boiling water, allowing it to remain five or ten minutes; then place the bag by a stove or in some warm locality, allowing it to remain until the sprouts are from one-half to an inch in length. This will occur in from one to two weeks. No inconvenience will be occasioned by the sprouts when planting, as they are of a tough leathery texture, not easily broken. The young plants, when the seed is treated in this manner, will appear above ground in from three to six days, when, planted without germinating, about four times as long. A friend informed me to-day that his cane seed planted dry, was three weeks in coming up. The advantage in germinating the seed is obvious. The plant, when it first appears, is very small, much resembling some grasses.

If intending to plant, procure seed in time to have it sprouted about the middle of May. Select a piece of ground which would give a good yield of corn, the richer the better. Plow and prepare the same as for corn. Mark but one way, having the rows three and a half feet apart. Drop the seed in hills about eighteen or twenty inches apart, and cover not very deeply. As soon as it is two or three inches in height, go through it with a cultivator, and dress out nicely with the hoe. From this time until stripping of the leaves, give it the same care as you would corn. Care should be taken at the first hoeing, as much depends upon giving it a good start. Suckers will start up about

each plant; these should be broken off if you wish to raise an extra quality of cane.

The leaves are stripped off very expeditiously with a common hay-fork, by striking the tines of the fork quickly from the top of the cane downward. When cut up and the tops cut off, your cane is ready for the mill. A quick way of taking off the tops is to lay a large heap of the cane with ends overlapping a piece of plank, when a few blows with an axe will do the work.

The mill used here was one of Hedges', made in Ohio, the cost of which is about \$30. Such a mill answers for a score or more of farmers. The apparatus used for making the syrup was, in lieu of a better one, two wooden vats bottomed with sheet-iron, the same as used in making maple syrup. The owner of the mill intends next season to get an evaporator.

The mode of reducing the green rank juice of the cane as it comes from the mill, to a good palatable syrup is as follows: Fill the vats about two-thirds full. As soon as it fairly boils, begin skimming off the sediment which rises to the top; continue this at intervals as long as it rises. The flavor of the syrup much depends upon this process. When about the proper consistency for use, to cleanse it, for 15 gallons take one quart of sweet milk and one table spoonful of saleratus, dissolved in water; cool the syrup and pour in; this causes all particles of cane and other matter to rise to the surface. This should be skimmed off as quickly as possible. When a proper thickness is attained, and the syrup cooled, it is ready for use.

By following the above directions any farmer may produce an article which will supplant sugar to a great extent in his culinary department. When used in making cake, coffee, preserves and sauces, it can hardly be distinguished from the best of sugar. When first made it has, to some, a rather disagreeable taste; this soon leaves it however.

I have seen it stated in several papers that it was impossible to ripen seed here at the North. That idea however has been proved false, for we have a large quantity of fully ripened seed. I am confident that any person by sprouting his seed and planting early, can ripen his seed every year. The yield here per acre was from 120 to 180 gallons. E. A. KING.

King's Ferry, Cayuga Co., N. Y.

INDIAN CORN AS A FODDER CROP.

MESSRS. EDITORS—On page 13, current vol. CO. GENT., your correspondent, Wm. J. Pettee, makes a suggestion in regard to raising corn for fodder. If it is in order, I should like to offer an amendment to the suggestion. He suggests that it might be "grown on soils of only a *medium* quality to advantage, by using for seed the Southern or Dent corn," and gives as a reason for growing it on such soils, that if grown "on strong soils," it grows "so rank and stout as to render the fodder nearly worthless."

The amendment is this: Grow it on *strong* soils—no matter how rich—the nearer it approaches in richness to a barn-yard, the better; but sow the seed *very thick*, so that it cannot get an overgrowth, and become "worthless" for fodder. Let its density act as a check to its lofty aspirations. When grown on soils of this description, and seeded *quite thick*, the amount of fodder per acre would be apt to make a novice stare.

For the last few years I have used the Western corn for seed. The first season I did not get it thick enough, and had some of the tall kind—portions of the field being from ten to eleven feet high, and the stalks were pretty coarse, though when green, they were all eaten by my cows, but when cured for winter fodder the butts were rejected. Since then I have used more seed, and get from five to seven feet growth, but a *good deal more fodder from an acre*, and of a *much better quality*. The stalks are small, and when dried are not hard and woody. It is much less labor to cut up and bind the stalks when of about the last named height, and they stand better in the stook—are not as liable to blow down.

At the present price of seed and labor, the expense involved in raising a crop of cord-fodder, harvesting, &c., amounts to quite an item. And as corn is fond of good living, I would put it on soils that are adapted to its growth—rich, or made rich by manure.

I have seen specimens of this crop, on unsuitable soils, the color of which was about that of a faded pumpkin and milk mustache, and the thought of cutting it up would almost give one a crick in the back. Such a crop I beg to be excused from raising.

For these reasons, and others that might be mentioned were it not for being tedious, I submit the amendment. I am happy to say that corn as a fodder crop, is gradually working its way into the good graces of the farming community in this section. May its value be better understood.

J. L. R.

Jefferson Co., N. Y.

Benefits Derived from "Puttering."

MESSRS. EDITORS—I here send you a few practical hints to unpractical farmers. Don't be afraid to spend a few leisure moments in making things look comfortable and neat about the farm. Slipshod or slovenly management makes the boys hate farming and everything connected with it. I can assure you it will pay to make the premises look as attractive as your time and means will permit. You will enjoy it far more yourself if it is well stocked with well selected and thrifty fruit trees. Strive to have a place for everything, and keep everything in its place. I know some farmers may call it puttering work; yes, I should think it was, but it is paying work too. You hate to putter, but you like ease and comfort as well as any one. Puttering is nothing else than taking care of the small items which go to make up the big whole. Puttering, why, sir, it is the very thing that has done more to enrich the farmer than any single thing which can be enumerated. But, says the thrifty farmer, I don't putter all the time, you must remember. Sometimes there are leisure hours and wet days, when a man can do nothing else. At this time of the year I make hooks, catches or wooden buttons, for barn or stable doors; put or repair hinges on my stable windows; batten the sides of my out-buildings; put knobs on the cow's horns to prevent them from hurting the young stock; turn over manure; gather the guano from the chicken-house, put it in barrels to keep until spring; when mixed with other ingredients it forms an excellent manure for the garden—pick over and repack the apples in the cellar—saw and pile up wood enough to last until next puttering day comes—clean out the pigpens and put in fresh straw—look over and sort the

lumber pile up in the store-room, so as to know just where to find what I may want in an emergency, and if the women want anything done about the house I cheerfully do it, and do not call it lost time nor grumble because it is puttering work, either.

Come, look here, Mr. Anti-putterer, you told me last year the bugs had destroyed your vines, and you did not see how I saved mine so nicely. You remember I showed you the boxes with panes of glass in them, that I protected mine with, and you said you had no time for such work. Just come here and see the dozen I made the other day; it was done one of those puttering days. I can grow vines enough under them to supply all our wants. If you hire a carpenter he would charge you a shilling a piece for them. Well, I did the work on them in half a day. What is that, says neighbor Never-try? Why, sir, that is a wagon-jack I made myself. I use it when I want to take off the wheel to grease it; see, it saves hard lifting; they can be purchased at the hard-ware stores, but then they cost money. I had the materials, the time and the will to make one, and it is as good as any of their iron concerns.

N. J. C.

PORTABLE FENCE.

C., in your your paper of October 15th, inquires for a portable fence which shall be convenient and cheap. John P. Ross, of Caughdenoy, Oswego Co., had a portable fence on exhibition at the late State Fair at Utica, which is preferable to any I have seen. It is made as follows: Four boards seven inches wide and twelve feet long, spread four feet wide, with two battens across each end, one across the middle, six inches wide, put together with tenpenny clinch nails, makes a length of this fence. In putting it up it requires two stakes for the first length, and one for each additional length. The fence may be fastened to the stakes with wire or withes at the top. This fence runs in a straight line, and the joints or lengths are fastened together with a piece of board twelve inches long passing between the battens of two lengths at the top and bottom spaces, and fastened with a nail. The ends should rest on a flat stone to prevent decay. This fence is easily put up or moved without injury. Forty feet of hemlock boards and half a pound of nails, with one stake, will make a length of fence. This fence is patented.

Mexico, Jan., 1864.

HIRAM WALKER.

ORONOCO TOBACCO.

I, with several others in this vicinity, have made an experiment with this excellent variety of tobacco. We are much pleased with it. The yield per acre is somewhat less than that of ordinary Connecticut Seed-Leaf, when planted at the same distance. By planting closer however, it is my opinion a yield, equal to if not greater, may be obtained, while its real value per pound is double that of the Seed-Leaf. The plant starts early and vigorously, affording a strong and healthy plant for early setting. This tobacco ripens from three to four weeks earlier than any other variety, thus being sure to escape the early frosts of autumn. I think it will ripen in the coldest region of our State. Good judges of tobacco have pronounced the segars made from it equal to any Havana. Those who are in the habit of raising their own smoking material would do well to give it a trial.

E. A. KING.

King's Ferry, N. Y.

LETTER FROM JUDGE FRENCH.

Farming in England.

MESSRS. EDITORS—A letter from Old England shall furnish my text for what I have to say at this time. While we reserve all our natural and inalienable rights to quarrel with everybody who does not appreciate the American eagle and sympathize with the North, let us never forget that there are kind hearts and wise heads across the water; and especially let us remember that there is a system of agriculture in England which is always a profitable study for us. If we may not follow it precisely, anywhere in the United States, we may certainly find in it much to admire, and something to imitate.

The letter is from the hospitable "Manor House" in Lincolnshire, which opened its doors so kindly once to me, and afterwards to one of you. It is from an English farmer, who owns none of the thousand acres which he cultivates, but pays for it an annual rent of some five dollars and a half per acre.

These farms are usually held under no written lease, but from year to year, and the tenancy, which is governed rather by the settled customs of the country, than by defined terms, is really as permanent almost as if the tenant owned the land. Often it continues for generations in the same family, the landlord rarely visiting the farm, or in any way interfering with its management.

In my letter, to which this is a reply, I had inquired for the old yew tree and the splendid purple beech which shaded the mansion, in the hot days of summer, when I was under its roof. Under date of Nov. 3, my friend writes:

"The copper-beech and old yew are in their glory. The latter is full of scarlet berries that attract quantities of blackbirds, and the beech still retains its foliage, though the first rough wind will scatter its leaves over all the grounds. My kinsman Mr. —, whom I think we went to see, is gone. He had saved something like £40,000 by farming, having reared three sons and three daughters and given them portions. That is thought to be a large sum for a farmer to save. Is that about \$200,000 of your money? * * * We keep the same number of sheep as when you were here, 800 or 900. We have increased the weight of the fleece to 9½ pounds per sheep. Mine averaged this year worth £1, (\$5) per head. The stock is the chief thing that pays. Beef is 7d, per pound; mutton, 8d. per pound, wool 2 shillings per pound; while wheat is only 5 shillings per bushel, and barley 4 shillings per bushel.

"The wheat crop has been a most abundant one. I know of cases where 80 bushels per acre have been thrashed and sold. That would not be a very bad trade you will say. Unfortunately my land is, most of it, hot and rather thin, so that our yield is but little above an average. With the quantity of old in the farmers' hands, and this great crop, we shall have low prices for years, in this grain I mean. I have ventured to put in 260 acres, principally white wheat, notwithstanding. The potato crop is a very good one. They sell in the field at £2 per ton, large and small. The quality is most excellent. We have adopted some improvements since your visit. Reaping machines are common, and answer well. Steam cultivation is a very pretty operation, and is a very nice amusement for very scientific gentlemen who farm their own land, but the horse is cheaper. Of course we have grey stones, and grind all the corn that horse or pig or sheep consume.

"With an eight-horse engine, we can crush 20 quarters (160 bushels) per day of barley or Indian

corn. We have smooth rollers for linseed. I have this year set up a chaff-cutter, driven by power, mixing up wheat-straw, barley-straw and a little clover. We can cut up a quantity that would amaze any one who had not witnessed the operation.

"The cattle appreciate the food thus prepared for them, while it is, at the same time, economical. We have had a beautiful year, very dry, hot and pleasant. We have had to cart water for 1000 head of stock.

"We have very little hay; the barley-straw very short, the pastures the color of a fox's back, and yet the sheep did well, the cattle not exactly so well. There is abundance of wheat, and apples and pears are very good. We have beautiful weather still. This November is bright as March and warm as May. I am speaking of Lincolnshire only. In some parts the stooks were green, before the corn could be carted. I think if our climate were always as fine, that I for one, should enjoy myself more. We have not done at all amiss for one twelve months. My daughter and myself have seen the sun rise over Edinboro' from Arthur's seat—have walked from Dryboro' to Melrose by the Tweed, &c., &c. We spent several weeks very pleasantly, and felt much refreshed—much the better in health and spirits, but in other respects no richer. If the Scotch are poor, it is not their own fault. They take every opportunity of becoming more wealthy."

I cannot forbear to give one extract more, though it is not strictly agricultural, as showing the ideas of our English friends, who are early impressed with the beneficent effects of a national debt, one of the evils which we republicans are taught to regard as a national curse. Though the writer expresses little sympathy for our side of the war, there is comfort in his cheerful view of what, to many of us, has seemed the worst feature of our situation:

"About your 800 million pounds sterling of debt, you will carry it as easily as your lady carries the ribbon on her bonnet. It will do the nation good. You will have an abundant currency—money for anything. The talk about national bankruptcy is all stuff. You may add the southern debt to your own, and the price of the negroes to that, and be all the richer for the operation."

How an English Farmer Grows Rich.

The first question that occurs to an American on reading these extracts is: How could a farmer who paid rent for his land save \$200,000 in farming? I confess my inability to answer the question very satisfactorily, and yet it is quite evident that money can be made by farming in Lincolnshire on the system there practiced.

I remember well the kinsman of my friend, to whom he alludes, an intelligent, interesting old gentleman, who showed me a Roman coin which he had recently plowed up in one of his fields, which no doubt had been left there when the Romans occupied that country, some 1,800 years ago. The course of husbandry in all that country, except the Fens, is the well known four-field system on the light lands, and the five-field system on the heavier or clay soil. We may regard the farm, in general, as covered by four crops, in about equal proportions, to wit, turnips, barley, grass or "seeds," as they term it, and wheat, and on the clay land one-fifth lying fallow. The turnips are consumed by sheep, usually confined upon the field in movable fences called hurdles. The best farmers cut the turnips with a machine, and feed them out in troughs. It is estimated that about 1,000 Lincolnshire sheep, which are very large, well fed with turnips and oilcake, will sufficiently manure an acre by remaining

on it one day for the succeeding crops of barley and grass. During the course the land receives further manuring by sheep turned upon the grass, and by manure from the farm-yard.

I do not design now, however, to go into details, but to pursue the inquiry suggested. It is a strange fact that England has no agricultural statistics. Neither Parliament nor anybody else has ever ascertained either the number of animals or the product per acre on English farms, though in all matters pertaining to manufactures, every pound of cotton, every spindle is recorded and published. Various objections are made to any such census, as in America, we take every ten years, such as the impertinence of inquiries into men's private affairs, but the real reason is probably this: That the farmers are afraid that if their profits are made public, their rents may be raised, while their landlords, rich, and therefore conservative, are naturally afraid of any innovation.

By what a farmer has to sell, we may form some estimate of what his profits may be. On a 1,000 acre Lincolnshire farm, on which the farmers say they ought to have a sheep to every acre, the crops for sale would be, in general, the product of 250 acres of wheat, the like area of barley, the wool from 1,000 sheep, and a considerable profit in feeding and fattening other sheep kept through the winter. Many farmers whom I visited were raising fine horses for hunters, or flocks of rams to sell for breeding, in addition to their regular farming.

But let us estimate the three principal sources of income at this year's prices:

250 acres of wheat, 30 bushels to the acre, 7,500 bushels, at \$1.25.....	\$9,375.00
250 acres of barley, 35 bushels to the acre, 8,750 bu. at \$1.00.....	8,750.00
1,000 fleeces, 9½ lbs. each, 9,500 lbs., at \$0.50....	4,750.00
	<hr/> \$22,875.00

The farm, of course, usually produces the keep of all the working stock, and the garden and field supplies for the family, and often a considerable portion of the labor is paid for in products. On the other side of the account are some \$5,000 for rent, the interest of some \$50,000 required as capital to stock and work the farm to advantage, the wear of horses and implements, heavy payments for super-phosphates or other turnip manure, and the labor account. Yet we see, after all, the possibility of such a farmer clearing \$4,000 a year by such farming, and that would account for even the large amount "saved" by my friend's kinsman, in a long, industrious and prosperous life.

The Wages of Labor.

If the English farmer were to pay American prices to his laborers, I think he would be unable to pay his rent on his present system. Yet I believe the price of labor in that country might be somewhat raised with no loss to the farmer. A system of education which should reach down to the lowest worker would somewhat increase his capacity for labor, intelligent labor being, even in the lowest offices, more productive than ignorant labor. This, I think, is the conclusion of those interested in cotton mills, a business in which the operative comes as near to a piece of machinery, as the lot of humanity will permit. It has been found that mills filled with educated Yankee girls, by reason of their superior neatness, love of order and sense

of honor, rather, perhaps, than their greater manual skill, are far more productive than those filled with foreign laborers. But the compensation which I should look for would not be so much, the greater capacity of the intelligent laborer as the substitution of better machinery, tools and processes of labor.

Two dollars and a half per week is a high estimate for a man's labor on the farm in the best parts of England, the laborer boarding himself, while in ordinary times in America common laborers have received double that amount, or more. In England, usually, the same amount of money will buy no more of the necessities of life than in America. Good men, and among them the late Prince Consort, have advocated general education in Great Britain. With my American notions I cannot conceive how the condition of English laborers can be any more consistent with education than slavery is, and we all know that ignorance and slavery must dwell together. I do not mean to say that the British laborer is a slave, or anything like a slave. He is not bought and sold, he has his own wife and children, and may read his bible if he knows now. Still his intelligence is often not far above that of the slave. If he knew and felt what is true, that the whole wealth of the nation is in the hands of higher classes, to which he can never attain, would he remain quiet in his position? The farmers of England, it is estimated, pay \$300,000,000 annual rent to the aristocracy who own the land, and who own it, not because they have earned it, but because a thousand years ago the Conqueror bestowed it on some ancestor. So long as the laborer will work for bare subsistence, so long can the farmer pay his rent, and so long will he be satisfied with a system in which his, the middle class, is educated, respectable and influential.

But I will not, on the text of my kind friend's letter, utter prophecies of any evil to his country, which alone, of all the great nations of Europe, stands boldly up for human rights. She is fast attaining correct views of the condition of affairs in this country, and as clouds thicken over European skies will seek and find again a natural alliance with us, who are of her own kindred.

Why Farmers should Write for Ag. Papers.—

A correspondent of the Canadian Agriculturist says:

We have examples in the COUNTRY GENTLEMAN and ALBANY CULTIVATOR, and the Genesee Farmer of very successful and widely read periodicals, attracting much attention in Canada. It cannot be said that our Canadian periodical has not on its pages a staff of able and responsible editors, and we therefore inquire what is the matter? Every reader of the American papers referred to, knows that one of their leading features consists in the contributions by farmers themselves from all over the United States; illustrating their occupation; giving their experience; making and answering inquiries; criticising and commenting on the various practices of each other; enjoying communications; establishing acquaintance; creating interest in each others' welfare, and prompting good feeling and the progress of this great leading branch of industry. Their journals are a ready source of correspondence between the leading farmers of the country, who comprehend that nothing is lost by imparting to others valuable knowledge derived from experience. There is much, no doubt that is crude thrown together in this way, but the result is a great deal that is valuable and instructive.

The total deposit of gold and silver in the United States Mint at Philadelphia during the month of January amounted to \$174,304. The coinage during the same period was 2,187,480 pieces, equal in value to \$168,468.

Squashes and Pumpkins for Animals.

The greater number of legs the farmer has to his stool, the less will be the danger of upsetting. In other words, it is safe to have a number of different crops to rely on for feeding farm stock. Hay, early cut and well-secured straw, cornstalks sown specially for fodder and otherwise, ruta-bagas, beets and carrots will all be found valuable on every farm, and the mixture and alternation of food which they allow will promote the health and thrift of animals better than confining them to a single dry substance. It has often occurred to us that some variety of pumpkin or squash might be raised or selected for planting as an exclusive crop on a portion of the farm. Pumpkins are usually planted with a corn crop, and sometimes afford thus a good return, but are often an uncertainty; and, when they grow freely, no doubt like weeds lessen the amount of corn, at the same time that the straggling vines prevent clean cultivation during the latter stages of growth. Would it not be better to devote one to five acres, properly enriched for the purpose, to the most productive and nutritious sorts? We observe in a later number of the *American Agriculturist* that the Turban Squash, so named from its form (and possessing fine grain, a sweet and good flavor,) yielded at the rate of six tons to the acre, the past being a poor season for squashes. The old fashioned Orange Pumpkin has been raised by farmers from time immemorial, without any attempt made to improve its productiveness, the seed being planted year after year without any selection from the most prolific plants. The same care and attention which has been bestowed in improving the different breeds of animals, if devoted to the selection, crossing and improvement of the pumpkin and squash, might result in a variety of inestimable value, and one that would add a new item in the course or rotation for the farm. If the pains taken to secure such a variety should yield as valuable a result as some that have rewarded the labors that have been devoted to improving fruits, such as the new pears, strawberries, &c., it would be well worthy the attention of enterprising farmers, and will merit the patronage of agricultural associations. Would not a premium, or series of prospective premiums, be warranted for such an object?

ON FEEDING HORSES.

I have often thought of offering you some of my ideas of the best way to feed horses, because, in my reading of agricultural works, I often see ideas advanced which I think are wrong. I shall now confine myself more particularly to what is often said regarding *cutting fodder*. I have no disposition to deny that great economy is to be found in the process of cutting fodder, but when so found, it must be when that fodder is fed to horned cattle or sheep, or to idle horses, if to horses at all; and when, for the sake of economy, it is desired to feed up rough, or coarse, or damaged feed. In all these above named objects, I readily admit the propriety and great profit of cutting and wetting feed; but not so in feeding working horses or road horses. What I want to get at, is the way some people have of riding a hobby to death, and when it is shown that a certain method is good and valuable in certain cases, a disposition to *pitch in*, as the saying is, and go it blind.

Every man should compare theory with his experience and common sense, and move sensibly in all things. The idea of cutting everything and wetting everything fed to a working horse, which many men adopt and follow rigidly, is not good sense, to say the least, if not extremely absurd.

If any man, scientific or practical, as his profession may be, can show me any sound reason why I should take good sweet hay, and cut it up and wet it before giving it to a young sound horse, I for one would be happy to see it, and so would others who think before they do a thing. I would like to know why I should take the trouble to invent a way to chew a horse's food for him. Nature has provided him with a far better machine for that purpose, than any Yankee ever invented. If we propose to give a horse the full benefit of his food, he must be allowed to prepare it for his stomach in his own way. But some have said that that would require too much time, but if you cut and wet his food he can swallow it quicker. Well, if the eating quick is all that is desired, a machine could be got up something like a huge sausage stuffer, which would fill his stomach in a minute with the prepared food; but who would propose such a thing seriously?

The fact is, that when a horse is at work, either in team or on the road, his middle day feed should always be very light, if fed at all. It is very questionable whether any midday feed is good for a horse, if he is required to work immediately after it; but I must not argue that point now. Look at the facts as nature, that admirable workman, has made them. There is no food prepared for horses by nature, which can be swallowed without thorough mastication, not even the tenderest grass with the dew upon it. Every quadruped is provided with ample means to masticate its food, and none more especially so than the horse. Mastication is facilitated by a flow of saliva, whose moistening property and peculiar office, is an absolute necessity for the proper digestion of food. For brevity, I assume that these are undeniable facts. Now, if we cut and wet food to just about such a state as would be required before a horse could swallow it, and place such food before a hungry and perhaps a greedy horse, what else can we expect but that he would gobble it down without chewing? He will do it, and by our ingenuity we have contrived to defeat nature in some of its most important functions, and the gain we endeavored to make is more than lost. The object in feeding a horse is not to make him eat, but rather to do him good by giving him strength. Now how shall we do that? Let us see. Let us look at the matter in a plain common sense light.

If you have a horse which is worth anything, or capable of earning his own living, and you want to keep him so, provide him with the best food your farm or market affords, and that will prove the cheapest. Not a cent was ever gained by forcing a good horse by hunger, to eat damaged or otherwise unpalatable food. Provide good food and give him time to eat it; and here is my main point—*let him eat all his food dry*, whether it be hay, oats, or ground feed. It is only in that way that he will eat his food as nature intended he should, masticating it thoroughly. Giving him his drink at some other time. The hog is the only animal which eats and drinks at the same time, (except a man. Strange, is it not, that man, the noblest of God's works,

can act so much like one of the lowest brutes in some respects?) A man may claim that he has a right to thus assimilate his habits to those of a quadruped, but I claim that he has no right to force so intelligent an animal as the horse, to adopt the habits of so vile a brute as the one referred to. However this may be, if this should come under the notice of any one who doubts the utility of eating food dry, and he is himself troubled by indigestion, let him eat his meals awhile without drinking a drop at table, and he will not doubt it any longer.

But I must bring this already too long letter to a close, and will only add that I am interested in feeding a good many horses, and have made it no small part of my study. I have not cut or wet any feed for my horses for several years, and they work every day, eating their food entirely dry, whether hay, oats, or ground feed is given them, and if any man can show me a stable of better stock, or in a better or healthier condition, or more economically fed by any process, I should be happy to see them or hear about them.

Erie Co., N. Y., Jan. 18, 1864.

BUFFALO.

MAINE BOARD OF AGRICULTURE.

GENTS.—This body has got well at work, and if we may judge from the proceedings of the past week, the session will be one of much interest and importance. On Friday last Dr. J. C. WESTON of Bangor, read an able paper on "The Influence of Manufactures upon Agriculture." The paper will shortly be published, and I will forward you an early copy. After its reading, an informal meeting of the Board was held, at which speeches were made by several members of the Legislature: Hon. CHARLES HOLDEN, of the Council, Mr. GOODALE, Secretary of the Board of Agriculture, JOHN F. ANDERSON, President of the State Agricultural Society, and other gentlemen. It is understood the legislative committee upon manufactures have under consideration a bill to exempt manufacturing corporations from taxation for a limited number of years, and there can be no doubt, notwithstanding the present high taxes with a prospect of their being increased, that such a bill will be enacted. The increase and encouragement of manufactures is one of the most direct means of enhancing the value of real estate; and while it creates a greater demand for farm produce, also raises the market price of the same.

On Saturday, CALVIN CHAMBERLAIN, Esq., of Foxcroft, presented a report on "Improved Agriculture," which will come up for discussion this week. Mr. Chamberlain also exhibited an improved hand Seed Drill of his own invention, a description of which I will send you hereafter.

The report of Secretary GOODALE, for 1863, has just appeared. It comprises 297 pages, 73 of which are occupied with the doings of the Board at its last annual session, followed by a paper on "Cheese making as an article of export by means of associated dairies," a treatise on "Fruit Culture," occupying the bulk of the volume, the proposed Agricultural College, and the agricultural statistics of the State. The treatise on fruit culture, judging from a rapid examination of it, is a practical and thorough discussion of one of our most important branches of husbandry, and it will form a convenient hand-book for those of our farmers who have no larger work on the orchard; besides it possesses this merit, that the hints, directions and descriptions of fruits are adapted to our own soil and climate, and in a great measure are derived from

the experiences of our own intelligent fruit growers. Mr. GOODALE is well fitted to prepare such a treatise, and it has been faithfully performed.

Among other important topics, the discussion of which will come up next week, is that of the proposed Agricultural College. It is probable that the Legislature will make a final disposition of the matter at the present session, but how it will be decided I will not venture to say. A tremendous force will be brought to bear upon this honorable body to have it attached to some already established institution. I can only say I hope such a disposition will not be made of the National grant, and this, I think, expresses the opinion of every member of the Board of Agriculture, and of every intelligent and progressive farmer in Maine. In the language of another upon this subject, "May infinite wisdom guide the deliberations to the best possible results." Truly, your friend,

Augusta, Jan. 25, 1864.

S. L. BOARDMAN.

ADVANTAGES OF KEEPING A DIARY.

MESSRS. EDITORS—I wonder, after all that has been written upon the subject, how many farmers keep a Diary. It is not only useful, but beneficial. The habit is easily acquired, and it costs but a few minutes per evening to attend to it. Does it not also strengthen the memory to some extent in the effort to call to mind all that has occurred during the day, and though we may not put all down, still the mind will revolve each event, and perhaps the thus recalling all we have done through the hours past, may tend to make us better men, as we review the deeds and misdeeds of the day. "None are perfect." It is pleasant to compare the present with the Diary of last year at the same date. A Diary will also be received as testimony in court, and many a man might be thankful for its silent weight. Another thing I will suggest, and that is, a farmer would find an "Index Rerum" very useful. How often in reading we find something we would like to save to refer to, but when we want it we don't know where to look for it; but if the "Index Rerum" had been at hand, we could always find it when wanted. It is easily made. Take a blank book, count the number of pages, and divide them alphabetically, so many pages to A, so many to B, &c. You would not want as many for V, X, and Z. Then in the evening, while reading the CULTIVATOR, the COUNTRY GENTLEMAN, the Horticulturist, or some other works on agriculture, you should come across something you would like to remember,—for instance, in the CULTIVATOR, the best varieties of strawberries for planting,—take your Index Rerum, turn to S, and enter thus: Strawberries, best kinds for planting, CULTIVATOR, vol. 28, page 15, March. Part of the above can be abridged to save time, as, CULT., v. 10, p. 15, March. Again, (this one can be found,) "Best way to Preserve Celery," turn to C and enter Celery, best way to preserve, COUNTRY GENT., v. 23, Jan. Use it for general reading also. A farmer cannot know too much, and there ought to be in his house a pleasant place for a library. There is not a profession known, to which so many branches of knowledge can be applied as the agricultural. Just think of it, and see if almost everything cannot be made useful in some way or other. Have also a map of your farm, as I have seen suggested. Have every thing on it, every field, every building, every tree, every spring; have them numbered; have a book to go with it, so that you can tell when such a tree in field No. 2 was planted, what crops No. 3 has borne, when No. 5 was drained, and just where those drains are, etc., etc. Keep your account books, and be as thorough in the management of your farm and accounts as the merchant is with his business; then, with prudence and economy, you will always have a home.

T. L. C.

N. Y. STATE AGRICULTURAL SOCIETY.

Annual Meeting.

The Society convened in pursuance of notice, at noon on Wednesday, Feb. 10th, at the Assembly Chamber in this city. The attendance was larger than has been the case for a year or two past, and a spirited contest was anticipated as regards the location of the next State Fair.

The meeting was called to order by EDWARD G. FALIE, Esq., of Westchester, President of the Society.

The following is an abstract of the Report submitted by the Treasurer :

RECEIPTS.	
Cash on hand at date of last Report, including the State Flax Appropriation of \$2,000,.....	\$3,814.06
Annual Memberships,.....	44.00
Life Memberships,.....	228.00
Donation,.....	15.00
Donation from Sanford & Mallory,.....	100.00
Transactions, &c., sold,.....	50.00
State appropriation—Balance for 1862,.....	35.00
do. for 1863,.....	875.00
do. Salary of Entomologist,.....	1,000.00
do. Freights to Hamburg Exhibition,.....	1,000.00
Receipts at Utica Fair—Life Members,....	\$236.00
All other sources,.....	11,111.78
	11,347.78
On account of Arabian Horses,.....	50.00
Interest account,.....	39.67
	\$18,595.51
EXPENSES.	
Premiums, &c., Annual Meeting,.....	\$158.70
Premiums of previous years,.....	254.92
Library and Museum account,.....	45.25
Salaries and travelling expenses, including the Entomologist,.....	3,808.95
Incidental Expenses,.....	174.95
Postage account,.....	249.44
Printing and Stationery,.....	551.68
Flax Appropriation—deposited with United States Trust Co.,.....	2,000.00
Flax Appropriation Expenses,.....	22.00
Surveys of counties, etc.,.....	263.07
Hamburg Appropriation account,.....	668.38
Premiums of Utica Fair,.....	4,208.26
Expenses of Utica Fair,.....	2,318.66
	14,724.26
Investment account for United States Securities,....	3,016.35
Cash on hand,.....	854.90
	\$18,595.51

Under the Report submitted to the Legislature at its last session, from the Committee of the Society appointed to investigate the subject of Flax Machinery, no award of the State Appropriation of \$2,000 to encourage its improvement, could be made. At the first meeting of the new Board the Treasurer was therefore directed to deposit this sum at interest with the United States Trust Company of the city of New-York, that it might be held sacred for the purpose for which it was intended. This was immediately done, and both principal and interest as yet remain intact—the latter being probably more than sufficient to cover whatever expenses of committees may attend the past or future action of the Society, and leave the whole fund for award as soon as any invention worthy of the honor shall appear to claim it.

As to the fund of \$1,000 appropriated by the last Legislature for the payment of freights upon articles sent by citizens of the State to the Hamburg exhibition, the sum already expended or for which the Society is responsible, will amount to \$705.38—leaving an unexpended balance as shown in a report submitted herewith to the Legislature, of \$294.62, subject to such disposition as that body may direct. The Society's cash balance on hand, as shown in the foregoing report, is \$854.90, from which deduct \$294.62 unexpended balance of the Hamburg appropriation, and we have \$560.28 as the Society's present net cash balance, aside from the sum of Three Thousand dollars (\$3,016.35) invested in United States Securities.

All of which is respectfully submitted.

LUTHER H. TUCKER, Treasurer.

A motion for the acceptance of this Report was proposed by Hon. WM. KELLY of Dutchess, and passed. The Report of the Executive Committee followed, embracing a full account of the operations of the past year, with suggestions with regard to future action, especially with reference to the holding of a Trial of Agricultural Implements and Machinery during the year to come.

This was accepted on motion of Mr. COREY of Saratoga, who then proceeded to offer a resolution as to the future location of the State Fairs, covering prospectively a period of twelve years. After a few re-

marks from Hon. GEO. GEDDES, this proposition was laid on the table, as being in conflict with the Society's Constitution.

Mr. COMSTOCK of New-York, then moved the usual nominating committee of three from each Judicial District, who were appointed as below :

1. Messrs. Comstock, Reed, Pinckney.
2. Messrs. Jones, Crooke, Kelly.
3. Messrs. Knickerbocker, Gould, Wendell.
4. Messrs. Granger, Harison, Van Horn.
5. Messrs. Weaver, Hunferford, Morse.
6. Messrs. Cornell, Avery, Gilbert.
7. Messrs. Foster, Ogden, Hayward.
8. Messrs. Peters, Dow, Williams.

Pending the deliberations of this committee, a recess was taken until 5 P. M.

On re-assembling at that hour, the following nominations were submitted, and the gentlemen named unanimously elected for the ensuing year :

President—JAMES O. SHELDON, Ontario.

Vice-Presidents—1. SIMON R. BOWNE, New-York.

2. SAMUEL THORNE, Dutchess.

3. HERMAN WENDELL, Albany.

4. T. L. HARISON, St. Lawrence.

5. SOLON D. HUNGERFORD, Jefferson.

6. RALPH NEWELL, Delaware.

7. H. T. E. FOSTER, Seneca.

8. WM. A. BIRD, Erie.

Cor. Secretary—BENJAMIN P. JOHNSON.

Rec. Secretary—ERASTUS CORNING, JR.

Treasurer—LUTHER H. TUCKER.

Executive Committee—S. CAMPBELL, Oneida; T. C. PETERS, Genesee; ELON COMSTOCK, New-York; R. H. AVERY, Madison; S. R. PINCKNEY, New-York.

The committee further reported that two places had been named for the location of the next Fair, Utica and Rochester, and that upon two votes in committee, there had been an equal number for each locality.

Mr. Wilson of Oneida, moved that the meeting proceed to a ballot, to designate which of the two places should be selected. Mr. Robinson submitted a motion for the indefinite postponement of the question. Mr. Geddes raised the point of order that the ultimate decision of the question was by the constitution vested in the Executive Committee, and a prolonged debate ensued in which Messrs. Harris, Reed, Peters, Moore and Conger took part, when Mr. Harris, on behalf of the citizens of Rochester, and Mr. Butterfield on behalf of the citizens of Utica, expressing their entire willingness to submit their relative claims to the judgment of the Board, the question was so referred by unanimous consent.

Hon. T. C. PETERS of Genesee, then offered the following resolution :

Resolved—That it is expedient for the Society to hold a meeting for the purpose of carrying out a thorough trial of Implementations of Agriculture in the following classes :

1. For preparing the land for the crop.
2. For harvesting and securing the crop.
3. For preparing it for market.

This elicited a prolonged and somewhat irrelevant discussion, bearing upon the great importance at the present time of holding such a trial—all the speakers being apparently strongly in its favor. This subject was also committed to the consideration of the Board.

In the absence of further business, Mr. JUDD of New-York laid before the Society a letter setting forth the value of the services rendered to the Agricultural community by Rev. C. E. GOODRICH of Utica, in importing, propagating and experimenting upon the varieties and culture of the *Potato*. Mr. J. suggested that such services should not go unrewarded, and as age and feeble health had now placed Mr. Goodrich in a position in which a testimonial of the benefit he has conferred upon the farmers of the State would be peculiarly welcome and appropriate, he hoped that action might be taken in that direction, and was willing to head the list with a donation for the purpose.

Several other gentlemen took the opportunity of expressing their hearty concurrence in the proposition—among them Mr. Harison of St. Lawrence, Mr. Conger of Rockland, Mr. Cornell of Tompkins, Judge Cheever of Saratoga, and the President and Secretary of the Society, who referred briefly to the awards made in past years for the investigations so long and earnestly

conducted by Mr. Goodrich. Messrs. Conger and Harrison were appointed a committee, with the Treasurer of the Society, to secure subscriptions for the testimonial—to the success of which we refer elsewhere.

Wednesday Evening.

The evening session was an interesting and instructive one. Mr. JOHN STANTON GOULD, who was appointed by the Executive Committee last season to visit the Western States and thoroughly investigate the cultivation and manufacture of the Sorghum crop, and the progress of the Beet as a sugar-producing plant, read a paper embracing the many interesting and valuable details collected by him. This article will form one of the most valuable contributions to the next volume of the Society's Transactions, as it treats the subject in a more comprehensive and directly practical way than it has heretofore been treated. The conclusions of Mr. Gould, as to the general success of the Sorghum as a farm staple in the Western States, are to the effect that the profits arising from its culture are dependant in very great degree upon *warmth and length of season*. He showed by statistics carefully collected, that the amount of Syrup that can be made per acre increases as we go from Ohio westward, with the length of season and average temperature of the summer months. The amount of Sugar made from it he found unexpectedly limited, and it is evident from his remarks (as was surmised from our previous sources of information,) that as a sugar-making crop, it has as yet never reached the point of magnitude which has been sometimes asserted by agricultural writers. In the production of syrup, the liability of the plant to injury from frosts, and of the expressed juice (especially in certain conditions of the atmosphere) to fermentation before it can be boiled, are tending very much to reduce the scale on which it is grown by individual cultivators—who find, moreover, in the present scarcity of labor, that it is both difficult and expensive to secure enough at just the proper time to work up the product of a large surface to advantage. Deep culture and good drainage are shown to be of cardinal importance, for the plant is very impatient of moisture, while it stands a drouth unharmed which curls the leaves of Indian corn.

If space permitted, our readers would be interested in a fuller summary of Mr. Gould's remarks, which deserve the highest credit for the impartiality and discriminating judgment they display.

Dr. ASA FITCH, Entomologist of the Society, read a paper comprising the scientific history of the Cut Worm, together with the close and laborious observations he has carried on, during the past season, as to its habits and sub-varieties. This paper was also of unusual interest, and votes of thanks were passed to both the gentlemen with great unanimity.

Thursday's Proceedings.

On Thursday the Rooms were opened for the usual exhibition, which of late years has not been of the extent that should be elicited by the prizes offered. We publish elsewhere an official list of the awards.

Meantime a meeting was held for general discussion, of which our space will not at present permit an extended notice. The subject of Manures and their application was continued from the last meeting at the Utica Fair.

During the day the Report of A. BALDWIN, Esq., the Society's Delegate at the Hamburg Exhibition, was presented to the Executive Committee, by whom it will be submitted to the Legislature. The Flag received from the authorities of Hamburg through Mr. Baldwin, and a handsomely prepared collection of Seeds from the Swedish Government, through Hon. J. A. WRIGHT, were duly acknowledged.

Thursday Evening.

The Society met at the Rooms. The report of premiums awarded was read by the Secretary.

Mr. Kelly offered the following resolutions, prefac-

ing them by an earnest tribute to the intelligent and useful career of the distinguished agriculturist to whom they refer. He had brought to the cause of agriculture all the results of a liberal education—of foreign travel, and an earnest love for the life of a farmer. In one department, he was almost unrivalled. His selection of cattle has been attended with a skill, and with advantages, which are appreciated to this day both in this country and in Europe. His career as a statesman in his service in the State Senate, was a distinguished one. It was that of a man of intelligence and honor, and amidst it all, he never forgot to do all that could be done for the cause he loved so well, that of the science and practice of farming. At his country's call, when the terrible rebellion came into being, he came foremost, seeking only for active service, and in that service—in its consequences—he met his death.

In the loss of Colonel Rotch, the Society has to mourn its deprivation of a man of broad thought; a man of integrity and honor, and honesty of usefulness in every duty to which he was called.

The President felt the grief of the hour almost too deeply to allow him to put the question on the resolutions, but it was his duty, and the resolutions were unanimously adopted:

Resolved, That in the death of the Hon. Francis M. Rotch, late Vice-President of this Society, we have to mourn the loss of a most accomplished and sincere friend of agriculture. To natural abilities such as we seldom meet with, he united an extent of knowledge, the result of study, and a scope of observation which enabled him, though he had but just reached the prime of life, to contribute more to the development of our agricultural resources and the improvements of the animals of the farm than almost any man in our midst; while the purity of his character and the high toned principles which regulated his actions, the kindness of his heart and the urbanity of his manners will ever endear him to the memory of those who knew him best, in whose recollection he will ever stand forth as a true example of the American Country Gentleman.

Resolved, That in this hour of sad bereavement, we would tender our heartfelt sympathy to the family of the deceased, and especially to his father, Francis Rotch, Esq., one of the founders and most efficient friends of this Society.

Resolved, That a copy of these resolutions be forwarded by the Secretary of this Society to the family of the deceased, and that the same be published in the Transactions of the Society.

The proceedings of the Executive Committee upon the death of the Hon. Eliakim Sherrill, formerly a distinguished member of the Society, were on the motion of the Hon. Mr. Cornell read, and, on motion of the Hon. Mr. Kelly, approved and re-affirmed.

The President, Mr. FAILE, then delivered the usual address, which was listened to with great interest, and which we propose to place at length before our readers. On concluding, the President elect, JAS. O. SHELDON, Esq., was introduced, and, in taking the chair, expressed his gratitude for the honor, his confidence in the co-operation of the Board, and his hopes that the coming year would add to the records of the Society's prosperity and success.

After a vote of thanks to Ex-President Faile and the retiring officers, proposed by Hon. Geo. Geddes, Mr. Butterfield of Utica, acknowledged for himself and the citizens of that place the pleasure derived from the Fair of 1863, the uniformly kind and honorable treatment received at the hands of the Board, and the gratifying mention in the President's address of the exertions made there to comply with the Society's requirements and promote the objects of its exhibition.

Mr. KELLY offered the following resolutions:

Resolved, That the New-York State Agricultural Society deplores the action of the last Legislature in bestowing upon a single institution, and that not the representative of the agricultural interests of the State, the whole of the vast land grant made by Congress for the promotion of agricultural and mechanical education; and this Society respectfully urges upon the present Legislature the repeal or modification of the said law, so that the New-York State Agricultural College shall receive a full share of this noble grant, that thus the intention of Congress may be fulfilled, in the advancement of agricultural science.

Resolved, That a copy of the foregoing resolution be respectfully presented to his Excellency the Governor, and to the Honorable the Senate and Assembly of this State, by the Secretary of this Society—which were unanimously adopted, and the meeting adjourned.

The Discussion on Cheese Making at Rome,

The process of Cheese Manufacture was then discussed at considerable length. A few of the remarks and ideas elicited we give, and would be glad to report them in detail did space allow.

Mr. Jesse Williams of Rome, termed the father of the cheese factory system, responded to a call, and said the best thing he had seen published on the subject, was from the pen of Mr. A. Bartlett of Ohio, who was present, and he presumed would be willing to talk on the subject to the Convention.

Mr. Bartlett responded that in the article referred to, he had given Mr. Williams' own practice as nearly as he could. He was very ignorant of the whole subject of Cheese-Making. A few years since he thought he knew something about it, but lately he had availed himself of every means possible to acquire information on the subject, and he found now he did not know as much as he did five years ago, or in other words, the more he learned about it, the more he saw to be learned. It was not a thing to be learned in a moment, but time and persevering effort were necessary. We were as yet deficient in facts. No one could tell what proportion of milk was solid matter. He was satisfied that all the chemical analyses of milk were incorrect, and we could not get tell whether we ought to obtain ten, twelve or fifteen per cent. in cheese of the weight of milk. Some claimed we should obtain fifteen per cent. He generally obtained about ten per cent. in dry cheese; sometimes a little more. Milk, it was well known, was composed of three substances, butter, casein, and milk sugar. The two former should be incorporated in the cheese—the latter not. There were important questions yet to be determined, as—What proportion of the milk is cheese? Is any portion of the cheese milk-sugar? What proportion should be water?

Mr. Bartlett said, in reply to various questions: A chief cause of waste was ignorance in regard to the process of manufacture. Milk could be handled so as to throw away from two to ten per cent., and yet good judges say it has been done right. There were two kinds of waste, one of curd and one of butter. The curd passes off with the whey. The butter is contained in little sacs, which become mechanically entangled in the curd, and disturbance of the curd tends to set them free and allow them to pass off. Any process of manufacture which divides into minute particles, wastes both the curd and butter; so long as the globules of butter remain unbroken, they can be mixed with the milk. The cream should be mixed with the milk cold, as heating bursts the globules. After the rennet is put in, the milk should be stirred until it thickens, in order to properly entangle the butter globules. The less agitation after coagulation the better, and the process of dividing the coagulated milk should be as quick as possible—should not to be over five minutes. Blocks, one-fourth of an inch square, was fine enough. There was more waste caused by breaking the curd than in any other way. He did not think it possible to make good cheese from milk newly drawn from the cow. Milk that had been drawn two miles was in a better state for manufacturing than milk just drawn from the cow. While the animal heat is in the milk it is injured but little for cheese by agitation.

Several members of the Convention expressed a wish to hear Mr. Bartlett repeat the details of his process of manufacture. Having consented, he said:

As soon as the milk was received at night and drawn into the vat, a stream of cold water should be admitted to cool it if the weather is warm; agitate while

cooling. When cooled below 70 degrees, leave it. In the morning first mix the cream with the milk, then add the morning's milk. Apply heat until the temperature is raised to about 82 degrees—in cool weather higher. Now add the coloring matter, and then the rennet in sufficient quantity to produce coagulation in from 40 to 60 minutes. The milk is now kept agitated until coagulation commences; then left quiet. When the curd is sufficiently fixed, divide as quickly and with as little agitation as possible; as soon as this is done add 6 to 8 degrees of heat; after working the curd a while at this temperature, let it stand and settle; then remove portions of the whey; now break up the curd carefully with the hands. Then add heat to 96 or 98 degrees, work the curd at this temperature until it will not pack together. Should it still pack together, raise the temperature a little, seldom ever higher than 100 degrees. Cover up, and examine once in a while to see if the curd is done. When done dip it on to the draining-sink, and salt. A common rule is two and seven-tenths pounds of salt to one hundred of cured or solid cheese. After adding the salt to the curd, remove it to the pressing-room and dip it into the hoops, and press gently at first; usually let it stand a few minutes before applying any pressure. Would not apply very great pressure till after the cheese was turned. When fit to handle, take it from the press, turn and bandage, return to the press again, and apply strong pressure until the next day. He rubbed the cheese over with whey oil when taken from the press, and continued to turn and rub them every day until they are well cured. Should they show signs of dryness, another coat of oil was given them.

He prepared the rennets by soaking in water with a plenty of salt added. Considered it absolutely necessary that the calf should be five days old—ten days is better—should have full meals regularly until 16 to 18 hours before being killed. Take the rennet out, turn and salt it, then turn it back and salt it. Lay it in a pickle till thoroughly pickled; then dry it and keep it dry.

We have detailed more of Mr. Bartlett's remarks than any other gentleman, because he appears to know what he is talking about, as well as to be a man of excellent practical sense and experience—also because he occupied more time of the convention than any one else, owing, I suppose, to the severe catechising which he had to undergo. His suggestions are worthy the attention of all manufacturers who heard him speak. It was well observed that the art of cheese making could not be reduced to a set of rules. Good judgment, observation and practice, were always necessary to success in this business.

Statement of P. J. Sherwood's Dairy.

I have in my dairy seven cows. They are a mixture of the native, Durham and Ayrshire breeds. I have in my dairy a nearly pure bred Ayrshire, which produce $2\frac{1}{2}$ pounds of butter in one day, from 40 pounds of milk. The same cow produced $16\frac{1}{2}$ pounds of butter in ten days, during the last days of July; in both cases she was fed on grass alone.

My cows were wintered on hay and straw, with an occasional feeding of carrots. During the spring, when in milk, each cow received four quarts of carrots, and two quarts of corn and oatmeal daily, with all the good hay they will consume.

The seven cows run in a pasture of about 14 acres during the forepart of the season, and till the 1st or 15th of September. About the 15th of Aug. they are shut into a lot of about 4 acres, and receive a good supply of green fodder three times a day. During this time my pasture becomes laden with a bountiful supply of aftermath. This, with the help of my

meadow, gives me sufficient run for the rest of the season.

One chief feature in the treatment of a dairy is regularity in milking. During the long summer days care should be taken that each cow is milked at least every twelve hours, and that regularly. I also deem it a matter of great importance to give succulent food, as the pasture becomes dry, that we may keep up a full flow of milk. The results of my dairy are as follows:

Amount of butter sold from 7 cows,	1,363 pounds.
Amount of butter consumed and on hand,	300 do.
Amount of cheese 50 lbs., 2 lbs. of cheese equal one of butter,	25 do.

Whole amount of butter,	1,688 pounds.
Average amount per cow,	241½ do.

The above statement was submitted to the officers of the Delaware County Fair and awarded a premium.

P. J. SHERWOOD.

PRODUCT OF A DAIRY.

MESSRS. EDITORS—If you please you may chronicle in the Co. GENT. as follows: During the year 1863 we made from seven cows 1,643 pounds 7 ounces of butter. Average per cow 234 pounds 12 ounces. Net proceeds of dairy stands thus:

1,643 7-16ths lbs. butter, average price 24¼ cts.,	\$398.55
Milk sold,	8.67
Calf raised worth,	5.00
Calf fattened,	4.00
Deacon and veal skins,	5.25
Value of milk fed to 3 hogs, doubtful, but say, .	15.00
	\$436.47

Average per cow,	\$62.35
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No account being made for milk and cream used in the family.

The cows were soiled in the summer, and were kept on hay, corn fodder and straw, with three quarts of shorts and a peck of roots per day in the winter.

Jefferson Co., N. Y.

J. L. R.

CHEESE FROM OLD AND YOUNG COWS.

EDS. Co. GENT.—I thought I would write a small experiment of my own; if you think it worth publication do so. The question is often asked, how much more cheese old cow's milk will make than heifer's milk. I had nine heifers this fall, five twos and four threes, and we milked the night milk and weighed it and the mornings milk; the two messes added together made 63 lbs; we made that into curd, all drained ready to salt, that weighed 12 lbs. We then took the same number of pounds of old cow's milk, and worked it off in the same way, and it made 12½ lbs. of drained curd, before salting. I would like to hear from others through the COUNTRY GENT. and CULTIVATOR.

East Otto, Catt. Co., Dec. 18, 1863.

H. S.

HOME-BREWED ALE.

G. Burton, in the *Rural New-Yorker*, gives his method of making home-brewed ale as follows: "The art of brewing is very easy to be understood, for it is exactly similar to the process of making tea. Put a handful of malt into a tea-pot; then fill it with water—the first time rather under boiling heat. After it has stood sometime, pour off the liquor just as you would tea, and fill up the pot again with boiling water. In a similar manner pour that off, and so go on filling up and pouring off till the malt in the pot is tasteless, which will be the case when all its virtue is extracted. The liquor or malt tea must then be boiled with a few hops in it, and when it becomes cool enough—that is about blood heat—add a little yeast to ferment it, and the thing is done. This is the whole art and process of brewing; and to brew a large quantity requires the same mode of proceeding as it would to make a tea breakfast for a regiment of soldiers. A peck of malt and four ounces of hops will produce ten quarts of ale, and of a better quality than can usually be purchased."

Various Recipes for Housekeepers.

Mrs. E. A. CALL of Fabius, N. Y., sends for the COUNTRY GENTLEMAN, the following recipes from her "*Young House-Keeper*," which is advertised on another page of this paper:

Sausages.—Take fat and lean meat, cut off the rind and chop very fine, and season as follows: To twenty pounds of meat put eight ounces of salt, four ounces of sage, and pepper to suit the taste; mix thoroughly with the hand; fill tin pans two-thirds full, spread a cloth over the top of the meat, and a board over the top of the pan, and set in a cool place.

Chicken Pie.—Boil two chickens tender; season with butter, pepper and salt; thicken the gravy with a very little flour; make the dough as for short biscuit, and roll it out as thick as your hand, large enough to line a small tin pan; dip in the chicken and a part of the gravy; put on a top crust and pinch it down well; make an opening on the top with a knife, an inch or two long, and prick it with a fork. Veal and beef answer every purpose for this pie. The gravy left in the pot take to the table in a gravy dish.

Fried Cake.—One cup of sugar, one of sour cream, one of butter-milk, one teaspoonful of soda; add a little salt and a little ground cinnamon or spice; mix into a stiff dough, cut in strips and fry in lard.

Fruit Cake.—One pound of flour, one pound of sugar, five eggs, half pound of butter, one pint sour cream, one pound of raisins, a large teaspoonful of ground cinnamon, one teaspoonful of soda, frost and trimmings. The raisins should be chopped a very little.

Buckwheat Cakes.—Take one quart of buttermilk or sour milk, and one of water, one-half tea-spoonful of soda, and a little salt; stir in buckwheat flour enough to make a thinnish batter, and let it set over night; in the morning add another half teaspoonful of soda and a little more flour; bake on hot griddle. When done they should be put into some kind of a dish where they can be covered without the cover resting upon the cakes, as it has a tendency to make them heavy.

Frosting.—Beat the white of an egg to a stiff froth; afterwards stir in ten teaspoonfuls of pulverized white sugar. The above quantity will do for a common sized cake. Spread on while the cake is hot.

Fabius, N. Y.

ELIZA A. CALL.

RUPTURES IN ANIMALS.

MESSRS. TUCKER & SON—It sometimes happens, even under the most careful management, that the animals of farmers are troubled with ruptures or breaches. When this is the case the animal may be relieved and in some instances cured, by bathing the parts effected, twice a day with a strong decoction of White Oak bark. This is a powerful astringent, and therefore has a tendency to contract the parts affected. The animal should be kept quiet until the healing is completed, as any strain or extra exertion may counteract the effect of the application. Where White Oak grows, this extract is easily obtained by boiling the bark in water until the water becomes black. If applied warm, the effect will be sooner seen. The application followed for a week will show a great difference in the appearance of the animal and in instances cure. Commence as soon after the misfortune as possible.

Messrs. Tilden, at their dispensary at New Lebanon, N. Y., prepare this with other valuable extracts, and can probably accommodate those who are not in a White Oak region.

WILLIAM BACON.

Richmond, Mass., Jan. 18, 1864.



THE WHITE JAPANESE MELON.

A correspondent sends us the following notice of this melon :

This melon was first introduced to the public by that enterprising horticulturist, Wm. S. Carpenter, Esq. I understand that the seed was brought to this country by some member of Com. Perry's Japan Expedition. Though this variety has been known to a few cultivators for some years, it is to some people quite new. The engraving represents the general shape of the fruit, which is usually globular, though sometimes it is slightly oblong. The furrows are very shallow, and the surface but sparingly netted; the color is one of its most remarkable characteristics, being nearly white, or at least a greenish white. The flesh, which is very thick in proportion to the size of the melon, is greenish, tinged with orange. When well ripened, the whole flesh is eatable, the rind being scarcely thicker than the skin of an apple. The texture, sweetness and flavor of the flesh are all that I desire. It is a prolific bearer, and should be introduced in place of many inferior kinds now cultivated.

THE ROBIN—*Turdus migratorius*. LINN.

This well known and familiar bird is entirely different from the European Robin Redbreast, with which it must not be confounded. In size it is nearly twice as large, and in shape and in color it is entirely different. The nest and eggs of the English bird are very different, being five or six in number; and the shell white, more or less freckled with light red.

The American Robin, on the contrary, builds a large nest of grass, and thoroughly plasters it inside with soft mud. When this hardens it forms a substantial structure, which will often resist the elements for a whole winter. The author has found these nests without the mud lining, only this is rather the exception than otherwise. When the nest has been completed the female deposits her eggs—four in number, and of a beautiful sea-green. They measure, on an average, about 1 inch and 2-16ths in length, by 13-16ths in breadth, although there is considerable variation in the size, some eggs measuring more and some less than this.

The range of country inhabited by the Robin is vast—comprising indeed the whole of temperate North America. Wherever he appears he is generally re-



THE ROBIN.

spected and loved, and many a school-boy who would not hesitate to plunder the nest of the screaming Cat Bird, would not touch that of the Robin.

That the Robin is capable of imitating the notes of some birds, would appear from a Philadelphia newspaper, from which I clip the following paragraph :

"A ROBIN in New Canaan, Conn., has been taking music lessons somewhere, and astonishes the people of that town by singing the song of 'Whipoorwill' as perfectly as the original performer."

The Robin is capable of being kept in a cage, where he forms an excellent pet, both on account of his song, which bears a great resemblance to that of the Brown Thrush, and on account of his being so common and easily tamed.

The Robin is excessively fond of the berries of the Sour Gum, and also of poke-berries. An amusing anecdote is told by WILSON, in relation to their eating the latter. He says that in January, 1807, two young men, in one excursion after these birds, shot thirty dozens. In the midst of such butchery, some humane person wishing to stop the slaughter, effected it in a novel and ingenious manner. He caused a paragraph to be inserted in the newspapers stating that in consequence of the immense numbers of the poke-berries that the Robins fed upon, they had become unwholesome if not dangerous food, and that several persons had already suffered from feeding upon them. The strange appearance of the bowels of the birds seemed to confirm this statement, and in consequence the demand for and consumption of them immediately stopped, and thus, says WILSON, "motives of self-preservation produced at once what all the pleadings of humanity could not effect."

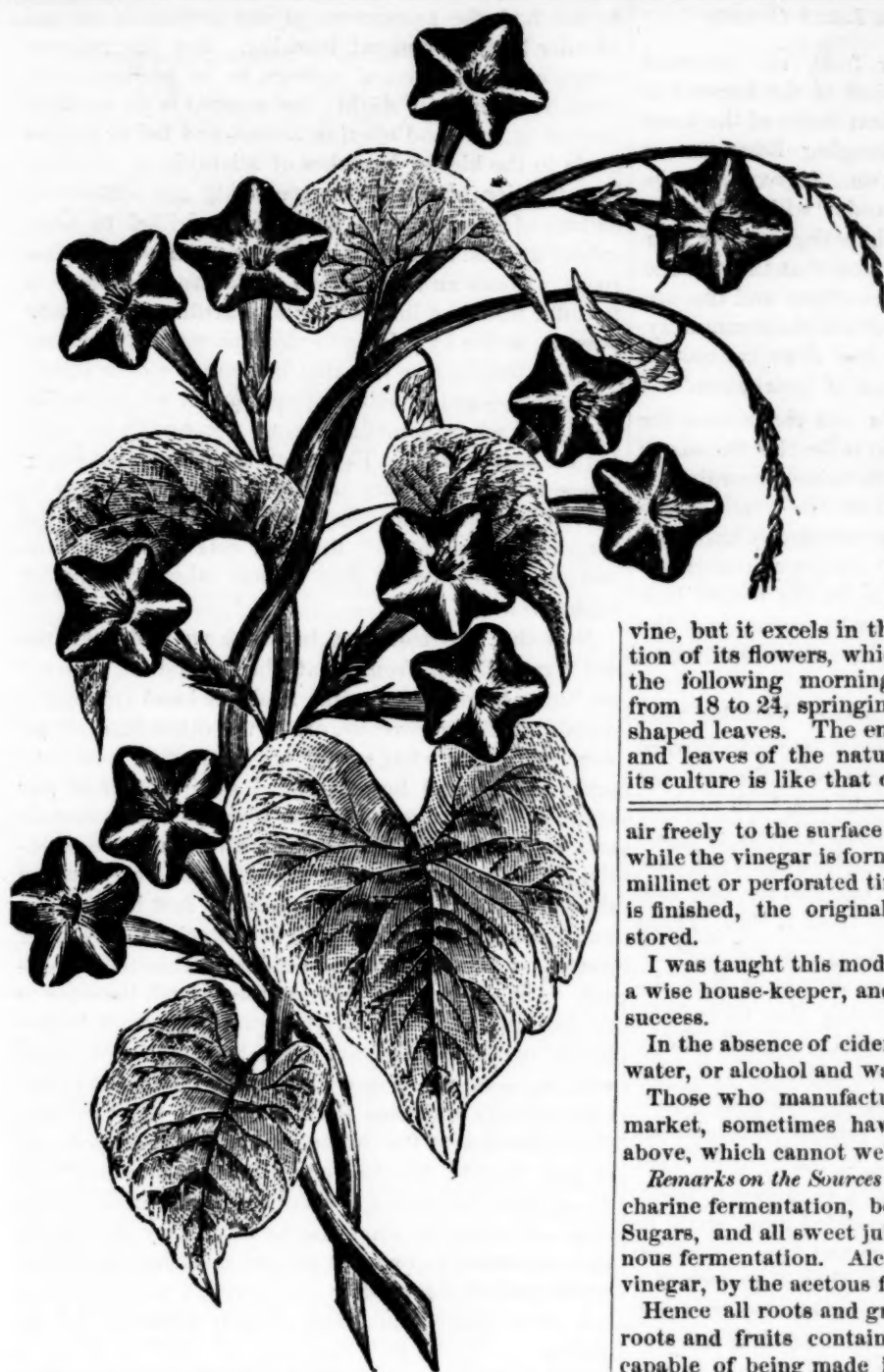
In the latter part of the summer they form in large flocks and resort to the wild-cherry and sour-gum trees, where they are shot in large numbers.

The following is an accurate description of the Robin :

"It measures nine inches and a half in length; the bill is strong, an inch long, and of a full yellow, though sometimes black, or dusky, near the tip of the upper mandible; the head back of the neck and tail is black; the back and rump of an ash color; the wings are black, edged with light ash; the inner tips of the two exterior tail feathers are white; three small spots of white border the eye; the throat and upper part of the breast is black, the former streaked with white; the whole of the rest of the breast down as far as the thighs, is of a dark orange; belly and vent white, slightly waved with dusky ash; legs, dark brown; claws black and strong. The colors of the female are more of the light ash, less deepened with black; and the orange on the breast is much paler, and more broadly skirted with white."—*Wilson's American Ornithology*, vol. I, p. 35.

J. P. NORRIS.

West Virginia.—You must begin to speak a good word for the youngest of the sisterhood, West Virginia, Her agricultural, mining and manufacturing capabilities are immense. Her central position and fine climate are a large capital to start with. Tell your northern capitalists, sheep growers and farmers, to come this way, instead of seeking the cold regions of Iowa, Wisconsin, and the sweeping winds of the prairie States. G. W. S.



A Pretty Twiner—the Star Ipomoea. *Quamoclit coccinea*.

The American Agriculturist says—"Every one who likes the "Cypress-vine," will be glad to know that it has an own brother which is a more rapid grower, and much hardier. This is the *Quamoclit coccinea*, a native of Mexico, and which, though naturalized in some of the warmer portions of the country, is but little known in cultivation. The plant was recently brought forward by one of our seedsmen, under the name of the Star Ipomoea, which will do well enough for a garden name, though it really belongs to the genus *Quamoclit*, and is not an *Ipomoea* at all. It has not the exquisite delicacy of foliage that characterizes the Cypress

vine, but it excels in the number, brilliancy and duration of its flowers, which in cool days keep open until the following morning. They appear in clusters of from 18 to 24, springing from the axils of the heart-shaped leaves. The engraving represents the flowers and leaves of the natural size. It is an annual, and its culture is like that of the Morning-glory."

air freely to the surface of the liquid. It will be well, while the vinegar is forming, to lay over the hole a bit of millinet or perforated tin, to keep out insects. When it is finished, the original block sawed out may be restored.

I was taught this mode more than thirty years ago, by a wise house-keeper, and have practiced it with the best success.

In the absence of cider, weak poor wine, molasses and water, or alcohol and water, may be used.

Those who manufacture vinegar on a large scale for market, sometimes have a process different from the above, which cannot well be used in a small family.

Remarks on the Sources of Vinegar.—Starch, by the saccharine fermentation, becomes sugar or sweet syrup. Sugars, and all sweet juices, become alcohol by the vinous fermentation. Alcohol becomes acetic acid, that is vinegar, by the acetous fermentation.

Hence all roots and grains containing starch, and all roots and fruits containing sugar or its elements, are capable of being made into vinegar. In wine growing countries poor wines are often thus used. So poor maple or cane molasses, slops of alcohol, &c., all may be converted into good vinegar.

I hardly need add that vinegar will be strong in proportion to the richness of the materials used in making it.

Good vinegar may be kept in heart, and the vessel sustained in quantity, by the frequent additions in small quantities of anything that will make vinegar.

Utica, Feb. 5, 1864.

C. E. GOODRICH.

P. S.—A large tub properly protected from dust and insects, would doubtless take the place of a barrel such as I have described. The vinegar when finished, could be dipped out and stored in an ordinary barrel.

To Prevent Rats from Eating Harness.

In answer to many inquiries in former numbers of Co. GENT., I would say that in ninety-nine cases out of a hundred, rats nibble harness and other leather used on horses, for the salt deposited by perspiration. Place salt at accessible points, in barns and out-houses, and the rats will rarely trouble your harness.

ANTI.

The Best Mode of Making Good Vinegar on a Small Scale.

1. Choose a stout, tight cask, if possible one that has already been used to contain cider, beer, wine, &c. Saw a square hole in the side around the bung from six to eight inches square. Be careful to saw bevelling, so that the piece may at a future time be set back in the hole, and not fall in.

2. Place this cask in the warm weather of spring, in some secure and sheltered place, where it can have the sun and yet be protected from disturbance.

3. Pour into it a few quarts of good vinegar, warmed a little. Also at the same time a few quarts of good cider, which will very soon become vinegar. Continue to add cider according to the heat of the weather and the ascertained progress of the contents of the barrel. In a few weeks all your barrel of cider will thus have become good vinegar. This being accomplished the whole may be removed to a cold cellar.

4. The object of the large hole is the admission of the

The Agricultural College Land Grant.

We have received a letter from an esteemed friend in New-Jersey on the subject of the disposal to be made by the Legislature of that State, of the lands granted by Congress for encouraging Education in Agriculture and the Mechanic Arts. He expresses the opinion that the avails of these lands "will be best expended in a branch of an existing college, rather than in an independent institution, and that the 'liberal and practical education' in 'agriculture and the mechanic arts' will be most productive to the community, when carried out in a more or less close connection with other and established courses of instruction."

In response to his request for our views upon the subject, we may remark that it is for the friends of Agriculture in each State, to determine, according to the circumstances of the case, how the avails of the Congressional grant may be most judiciously and effectively appropriated. And yet, it strikes us that a few words may not be out of place, as to the proper husbanding of such resources as shall accrue, and the probable disposition which will turn them to the best account.

In the first place it seems to us very desirable that *as early a beginning as possible* should be made, toward accomplishing the purposes designated in the act—not only from the natural desire all will feel, both to show that the grant is really to perform a work of great good, and to derive whatever benefit from it we can, as soon as may be practicable; but also for two still more important reasons. One of these is this: Those who are most conversant with the systems of agricultural and industrial education, as they have been developed abroad, will agree, we think, that there is no system there which can be imported by us and exactly supply our wants. Nor has such a system yet been fully settled upon here. It must be a work of time to ascertain exactly what will best promote the interests of the farmer and the mechanic, in the light of what science has, or may hereafter have, to impart to them, and how this education, when decided upon, shall be most nearly suited to the means and the disposition of their sons. It has taken more than a quarter of a century for industrial education in Europe to reach even its present position; and a similar, although perhaps less protracted period of growth, we must submit to, before we are fully in possession of what we are seeking. Hence we should urge that the more promptly an entering wedge can be inserted—the more speedily a class of farmers, educated according to the best standard at present available, can be sent out to test their education by their ulterior progress—the sooner we shall feel that safe ground has been acquired for further effort. And, moreover, the best means of education go for nothing, unless they possess the entire confidence of those for whose benefit they are established. It is therefore very important, as regards winning the favor of the industrial community, that the fruits of a "liberal and practical education" should be obtained and tested without any avoidable delay.

In the second place an institution, such as is contemplated in the act of Congress, cannot of necessity be entirely *sui generis* in its nature. To a school of Divinity, or Law, or Medicine, the student comes after

he has laid the foundation of his profession on the broader basis of general learning. But the requirements of an agricultural college, as to preliminaries, must be necessarily slight; the student is presumably limited in time and often in means, and before he proceeds to the higher branches of scientific or practical investigation which are to constitute the distinctive feature of these colleges, he must be drilled to some extent at least in the more ordinary studies of the class room. Hence an agricultural or industrial college is to differ from the institutions of learning we already possess, rather by *adding* to their present programme than by building up one that is wholly or even principally new,—and by eliminating from it whatever can be spared where something must necessarily be omitted for lack of time. That such is the case (but sometimes, as yet, with very trifling additions only) may be proved by comparing the curriculum of any of the "agricultural colleges" thus far established or contemplated here, with that of our other colleges or higher schools.

Now the circumstances in which we find ourselves are very different from what they would be, either if we had a large cash capital ready at hand yielding a certain available revenue, or, on the other hand, if we were quite sure what sort of an institution would exactly suit us, and how to spend every dollar of our revenue so as to make it tell towards a harmonious and satisfactory whole. Even with both these essential conditions reversed, we are not quite sure that we should advocate the establishment of new institutions under the act, unless there were obstacles to any other course, or peculiar reasons rendering this one expedient. And, taking the facts as they stand, it seems to us indisputably preferable to repose this trust in the hands of those who have been tried and not found wanting,—to give a new impetus to institutions that have already overcome the difficulties of the start, won the confidence of the public, and gained an experience of, and insight into the educational demands of the times, and the means of meeting them—rather than risk our money on what may be temporary and expensive experiments, or what at best must have a considerable period of growth to look forward to, before they can even reach the point already attained by the others.

In selecting an institution to be favored by such a trust, however, we need not urge that the greatest care should be exercised, not only to surround the gift, to insure its proper application, by stringent provisions, but also with reference to the professorships already established and the standing of their incumbents, and with regard to circumstances of locality, the agricultural and mechanical character and resources of the vicinity, and so on. All these are points of primal importance, and others may occur, such for instance as the possession of libraries and cabinets; but to these we need not refer at length.

It will be seen therefore that the opinion expressed by our New-Jersey correspondent meets our hearty concurrence, and here, although there is much that might be added to what is said above, we must dismiss the subject for the present.

A French writer says: "Sorrow is a fruit; God does not let it grow on a branch too weak to bear it."

Pleuro-Pneumonia in Massachusetts.

Mr. Secretary FLINT of the Massachusetts State Board of Agriculture, has addressed a letter on this subject to Gov. ANDREW, a copy of which we have received and read with much interest.

Mr. F. states that this disease still exists in twelve or fifteen towns in Eastern Massachusetts, and urges that if no measures are taken to secure its complete eradication, "we shall soon find ourselves in the condition of those countries in Europe" where it exists in proportions too enormous to admit of the attempt. "The most moderate estimates," he says, "fix the loss by pleuro-pneumonia alone, in the British Isles at ten millions of dollars a year." The further statements submitted as to the ravages of this disease, although seemingly almost incredible, are probably not overdrawn. The history of the Stock Insurance Companies in Great Britain is quoted in illustration of these statements; and the importance of immediate action is urged:

"If there could be a cordial and united co-operation on the part of the community, there is still a reasonable certainty that this disease could be extirpated. It is not too much to say that a small appropriation made by the last legislature, from three to five thousand dollars, would have kept the disease wholly in check, if indeed it had not entirely eradicated it.

Now a moderate estimate of the losses during the past season, to individuals, the towns and the State, would be at least ten thousand dollars, and in all probability they have been twice or three times that sum. But a far more serious consideration than the actual losses which have already occurred, is the fact that the disease has got so much farther beyond control. There would seem to be no longer any reasonable doubt that the disease is contagious and dangerous to a very high degree. Every step of its history in this State has shown this to be the case, even if it had not already been well known before, from its history abroad. It is generally conceded that of the animals exposed some twenty or thirty per cent., say about twenty-five per cent. on an average, will die. About twenty-five per cent. will take the disease and still live, but in a condition worse than death, so far as any profitable use is concerned. Another twenty-five per cent. will take the disease and may, apparently, recover, and the remaining twenty-five per cent. may escape entirely. Such have been about the proportions observed here."

Mr. Flint reports it as the unanimous opinion of those Veterinarians abroad, best qualified to judge, that Pleuro-pneumonia springs wholly from contagion. At the International Congress of Veterinary Surgeons held last year at Hamburgh, "it was declared *without a dissentient voice*, that the malady, so far as Western Europe was concerned, was of *purely contagious origin*." These facts are of particular importance here, "because some have attempted to lull the public mind into a false and dangerous security, by trying to have it believed that local causes, as want of ventilation, &c., have generated the disease here among us. It is a most dangerous fallacy. There is not the slightest ground for belief that a single case ever arose in this country from any such causes. It is clearly and unquestionably an imported disease, and if the whole truth were known, every link in the chain would appear, as most of them in fact do now." We have not room to quote this letter as fully as we should like, but trust that its monitory language may not pass unheeded.

CHICKEN LICE.

A Missouri correspondent writes to the COUNTRY GENTLEMAN: "We were much troubled with lice on our chickens. Two years ago we put in their house and yard, boughs and twigs of cedar from the Christmas dressings of our church, (Prot. Episcopal,) and the lice have disappeared. Cedar twigs are plenty in most localities, and having proved a remedy with us, may with others. Whether it is necessary that they should first be used in the church, deponent saith not. The church is lighted with coal oil, and this may have had effect."

REMEDY FOR HOVEN.

I noticed on page 364, last vol. COUNTRY GENTLEMAN, some excellent remarks about doctoring sick animals. Several remedies for cure of hoven were given. I will give another which I think preferable to those given.

Take a round stick of hard wood about $1\frac{1}{2}$ inch in diameter, and one foot long; tie a string to each end, put the stick in the mouth of the animal, and tie the strings together back of the horns, so as to hold the stick firmly in the mouth. The animal will be immediately relieved, and will be as well as ever in the space of five minutes.

We have relieved many cattle in this way, and have not failed as yet in a single instance. Last summer we had a case in which a cow ate very freely of clover, and when discovered was so badly swollen that when standing she could not keep her hind feet together, but would thrust one as far back as possible. In five minutes after placing the stick in her mouth she was chewing her cud.

The remedy is simple, and with us has certainly been efficacious. J. M. K. *Assyria, Mich.*

CULTIVATION OF YOUNG ORCHARDS.

We have noticed a very decided difference, plain to be seen by the most casual observer, between the orchards that have been cultivated, and those that are seeded down to grass. Let any one travel through Dodge county, Wisconsin, with an unprejudiced mind, and he cannot fail to become convinced that, at least in this part of the Northwest, it is necessary to cultivate young orchards to get a thrifty vigorous growth. Here is a farmer whose garden is beside his orchard. Orchard in grass, trees not over half the size of those in the garden. Trees some a dozen years old, and land kept highly manured in both cases. Trees in the garden bear liberally, while those in the orchard give their owner very little fruit. Those growing in the grass looking sickly and about half dead, while those in the garden look healthy and thrifty. If you pass westward, to his next neighbor, you find an exactly parallel case. There are two orchards, belonging to two neighbors, not eighty rods apart. One is thrifty and vigorous, giving liberal crops of fruit. The other looks half starved and stunted, and many trees are dying. The former has been kept cultivated. The latter is seeded to grass. We believe a young orchard needs cultivation just as much as a field of corn. F.

The Country Gentleman.—A Michigan friend lately sent us \$24 for a club of 16 subscribers, and as he paid for his own copy, we sent him a Portfolio File for the paper, as a small "premium" upon his list. In acknowledging its reception he says:—

"The portfolio file came yesterday, for which I am thankful, but do not wish you to think I suppose it is conferring a favor on you to obtain subscribers at \$1.50 per year, for a paper got up in the excellent mechanical style (letting brains go for nothing) of the COUNTRY GENTLEMAN. With some old time experience in the publishing line I will say that if there is money in it, 'I don't see it.' With me, the very little time expended, is fully paid for in the improvements made from the suggestions in your paper, which I see every day about me.

A. W. H."

The Cultivation of the Strawberry.

To secure the best results in the cultivation of this plant, a thorough preparation of the soil is necessary. I often hear people say the strawberry will not grow on their ground, and invariably find the difficulty to be the hard packing of the soil. In soils of an adhesive nature, a mechanical change must be made by adding manure, composed of vegetable substance. Concentrated fertilizers have little or no value for this purpose. A well rotted compost of muck and barn-yard manure will have the desired effect, and whatever can be done to make the soil lighter is especially indicated for the strawberry. Nearly all soils will be much improved by deep working. Trenching with the spade is the most effectual, but for a large area, the subsoil plow will do the work cheaper. The ground should be plowed twice in opposite directions, the subsoil plow following the common plow in each furrow both ways. This deep stirring of the soil will admit a supply of air and moisture so necessary for the growth of this plant.

It is of but temporary benefit to stir a strong soil, unless something is put into it to keep it open. I have met with good success in the use of leaf mould, and can recommend a compost of equal parts of leaf mould, swamp muck and barn-yard manure—the compost to be applied the fall before planting, and plowed in. I have grown at the rate of 200 bushels per acre of Wilson's Seedling, by using nothing but a heavy dressing of leaf mould and wood ashes.

In regard to system of cultivation, and choice varieties, doctors differ. I think the Wilson's Albany the most profitable market variety yet known. The Triomphe de Gand is a fine fruit, but produces from one-third to one-half less fruit than the Wilson, and will prove a profitable market variety where they will bring a correspondingly higher price. The Jenny Lind has been recommended by some for an early variety, but with me has not been enough earlier to make it any object. Fruit good and fair size, but will not produce half as much as the Wilson.

If the hill system is desired, the rows may be 2½ feet apart, and the plants set out 20 inches from each other in the rows, allowing each plant to strike a runner between, leaving the plants ten inches asunder in the rows. If the horse hoe and cultivator is used, a greater distance between the rows will be required. My experience is that these implements disturb the roots of the plants too much, and that the hand hoe should be substituted in their place.

The Triomphe will hardly be successful under any other than the hill system; they stand the drought well, and with me are quite hardy. The Wilson will exhaust themselves in one season whatever system is adopted, which is no objection with me, as I prefer to start a new plantation every year. I have planted the Wilson in rows 5 feet apart, and set the plants 2 feet asunder in the rows, allowing the runners to take possession of the ground, except an alley between the rows. Where the soil is heavily manured and deeply worked, a large crop may be obtained. Mulching should be done in the fall, and may remain on till the crop is gathered. Straw is the best protection, but must be thrashed clean. I have seen crops nearly ruined from scattering seed. Declare war against all weeds, work the soil deep and manure well, and success is certain.

North Haven, Ct., Feb., 1864.

L. BASSETT.

Raising Delaware Grapevines from Cuttings.

MESSRS. EDITORS—In reply to an inquiry on the above named subject, I would state that I have succeeded in raising Delaware grapevines from about three-fourths of the cuttings set out in the open air, by the following method:

Just before the ground freezes in the fall, I prune my vines, cutting the parts trimmed off (of that year's growth) in pieces containing three healthy looking buds each. These are tied in small bundles and laid in an old raisin box with a little earth sprinkled in the bottom. The box is then buried in dry soil in my garden, covered but two or three inches deep. I usually select a place near the west side of a tight board fence, where the frost seldom gets out of the ground during a winter thaw, and where no surface water will settle around the box.

They are left undisturbed in the box until the buds on the parent vine are largely swollen—some opened. This usually takes place early in the month of May in this locality.

The box is then taken up and carefully turned bottom upward, emptying the bundles of cuttings on the ground. The buds are generally found swollen about half an inch in length. They should immediately be placed carefully in previously prepared mellow ground. I set them with two buds under, and one even with the surface of the ground. Then keep them shaded by leaning boards against slanting stakes over the rows.

If the ground is getting dry they should be watered. The ground about the cuttings should be disturbed as little as possible, pulling the weeds carefully by hand.

Cuttings set out in the spring of 1862, last fall had made a growth of over five feet. WM. D. BARNS.
Newburgh, Feb. 12, 1864.

TOBACCO CULTURE IN MISSOURI.

The tobacco crop of 1862 was marketed in 1863. The crop was over an average in quality as well as quantity. It was well secured and handled, and met with a steady and active market, stimulated a portion of the time by the high premium on gold. In the latter part of February and March the market was somewhat depressed from the largely increased receipts and decline in gold. Since that time the market has been gradually advancing. An active speculative movement, in view of an increased duty upon the article, has tended to bring up the price. The receipts and sales in St. Louis in the three last years compare as follows:

	1863.	1862.	1861.
Receipts,.....	19,350	13,050	8,510
Sales,.....	16,575	9,353	6,786

The crop of 1863 is understood to be a large one, and in some locations the crop is a good one, but as a general rule is inferior to that of the preceding year. The crop was put out late, and in some places injured by the early frost.

It will be seen by the above estimate of the three last seasons that the production of the article has largely increased. The remunerative price compared with other crops has doubtless caused this increase. The crop of 1863 will be about in the same ratio of those preceding it.

In regard to the adaptation of the soil and climate to the production of tobacco and other crops, I propose to give my views at another time in answer to several inquiries from persons in the Eastern States.

Calloway Co., Mo., Feb. 8, 1864.

JNO. HENDERSON.

Care and Management of Poultry.

Poultry raising is very interesting, and it is exceedingly convenient at all times to have chickens, which can be killed and put on the table so quickly on the arrival of unexpected visitors, or in case of sickness. What a delicacy for the invalid or those in a state of convalescence, while for a party how well the turkey of 20 pounds and the goose of 12 or 15 pounds sets off the hospitable board, besides the profit of having, at all seasons, varieties for sale.

Like all other kinds of live stock, early reared young ones pay best, for spring chickens make double the price of later ones, and the pullets saved for laying will commence when eggs are scarce, and as they do not molt the first fall, will, with good feeding, keep on, and where it can be contrived for the hens to roost over any warm place, as for instance where by tubes or natural ascent the breath of cattle will go to their apartment, they will not cease laying entirely in the coldest spells.

By managing to have the young broods where none of the old fowls resort, and not confining them to the same spot of ground after they have soiled it with their dung, very pleasing results will follow, for more than half the losses of the feathered tribe occur through keeping the coops so close together, and so long in one place—have no bottoms in them, and daily move on fresh ground; then the broods will be sweet and clean, always healthy, and will grow as fast again.

When the hen deserts her young it is best to have them roost apart from the general stock of old fowls, to escape the perpetual pecking and worry which occurs when chickens first go among the hens; any place that is safe from vermin will do by placing a few sticks for them to roost on, as their welfare is the same in a common shed as in the finely built poultry-house of the wealthy, and very much greater than in many gentleman's places where the range is limited. Where great numbers of cattle are wintered, the buildings are extensive and the premises have litter, horse dung, &c., here and there in different parts—it is at such homesteads poultry may be kept ten times as numerous as where they are restricted to particular quarters, for it is their own droppings which to them poison the ground and the atmosphere, but the more of other animal manure they have access to, and the less of their own lying about where they feed and resort, the better.

Don't coddle the young turkeys too much; don't have any kind of fowls always round the kitchen door; a few steps farther to feed will be well taken, and don't begrudge food and give too much sop to young or old. The digestion of poultry is stronger than a millstone.

J. B.

CURE FOR WENS ON JAWS OF CATTLE.

In addition to the answer to C. S. R., in the January number of THE CULTIVATOR, for a cure for wens or setfasts on cattle's jaws, I would say that in 1855 I had a very nice Devonshire heifer that had one of these tumors on her jaw as large as a pint basin. I did not know what to do for it. I inquired of a physician—he told me that there was no cure—that I better feed her and turn her for beef. Soon after I saw a statement in some agricultural paper that common tar and salt would cure them. So I took a dish of tar and stirred in fine salt until it looked like black tub sugar. I kept the dish under a shed where I milked my cows, and applied it with a stick to the jaw, night and morning, for about three weeks, when a cure was effected.

In 1858 I cured one similar to the above with salt and vinegar, made as strong as it could be—kept in a bottle and applied twice a day until a cure was effected.

JOHN BARDEN.

Wells, Vt., Feb., 1864.

Foreign Notices.

Steam on an English Farm.—A writer in the Scottish Farmer gives an interesting account of the management of Mr. Ruck, in Wiltshire, who is farming over 1,000 acres of rented land, in addition to an estate of his own, of 350 acres more. In wheat there were no less than 491 acres, which at the time of the visit, just before harvest, were estimated as good for a crop of 20,000 bushels, or an average of over 40 bushels per acre.

The whole farm is plowed by steam, on Fowler's system, and it was thought that this method of cultivation added greatly to the crops, as compared with the old way of plowing. The writer says: "One field, equally managed, with the same soil, had been plowed for three years by steam; the other half had been done once only; the older steamed land was easily recognized by a crop of two or three sacks [a "sack" is four bushels] per acre more, besides a better color and finer quality of corn." Steam plowing on this farm has displaced no less than fifty-six oxen. Mr. Ruck's own land, which eighteen months before had come into his hands, "covered with the most coarse and useless herbage," was at once drained with the mole draining plow, also drawn by steam, "at a depth of three feet, and at a cost of 10s. per acre. The heads of the drains, which are furnished with pipes, open into a ditch at the end of the field, four feet deep, cut through the stubborn and heavy Oxford clay." All superabundant moisture was at once removed. One great cause of the heavy crops obtained, was also the large number of Cotswold sheep fed on the place.

Liming Land.—This was the subject of discussion before a Scotch Farmers' Club, when one of the leading speakers said that "his experience taught him to be no advocate of liming land heavily at the outset. Where land was requiring lime, he gave first a small dose, and then lime every five years; and he thought this kept the land in better heart than by giving it a larger quantity at once." He subsequently remarked: "Some people spoke of giving the lime as manure; but if they did not give dung at the same time, it would not do much good. The great thing was to give plenty of dung, and there was not much fear of over-liming. Many a time land was said to be over-limed, he believed, when poverty was the ailment; and if they gave lime along with plenty of dung, there was no fear of getting good crops of all kinds."

Lectures at Cirencester.—In these notices some time ago, we referred to the fact that a series of lectures was to be delivered by several well known agricultural writers at the Royal Institution at Cirencester, during the past season, somewhat on the model of the Yale lectures of 1860. They attracted considerable attention, and six of them have since been published in book form. We infer that similar lectures will continue hereafter to form a part of the regular programme of the year.

Pig Manure for Roots.—At a meeting of the Dorchester Farmers' Club, a paper on the Growth of Roots by Mr. Spooner was followed by a general discussion, in the course of which the chairman asked how it was that pig manure would beat any that the manufacturers could sell? Give him plenty of pig manure, for, with this, he had never sown turnips without having a good crop. Mr. Spooner said an explanation was scarcely necessary, as Mr. Harding had made use of the magic word "plenty." He then explained that, in consequence of the pig being fed on such rich food, and making so great a proportion of fat, in which there was no nitrogen, a great proportion of the phosphate of lime was left in the manure. The true explanation was, however, in the word "plenty." Another member observed that, according to what Mr. Spooner had said, and the facts alluded to by a previous speaker, they had better feed their pigs more on bran, for the purpose of getting manure. Mr. Spooner said they must get rid of their sprouted barley first.

The International Ag. Exhibition at Hamburg.

The Commissioner to the Hamburg Exhibition, the Hon. J. A. WRIGHT, has made his report to the President of the United States. The exhibition as a whole may be regarded as highly successful. Thirty-four nationalities were represented at the exhibition in their contributions, including 600 head of the finest horses, and some thousands of head of other domestic stock. Hanover stood foremost for speed, size, elegance and strength of her horses; and was not far behind Great Britain in the exhibition of the best and purest blooded cattle. The display of machinery was good and extensive, including many steam-engines, steam-plows, and farm machinery generally. Great Britain made the largest exhibition of machinery. The trial of steam-plows excited universal interest, and among none more than from the delegates from the United States. The exhibitors expressed a willingness to bring their machinery to the United States, should a trial be proposed, and open to other nations.

In view of the disturbed condition of the internal affairs of our country, growing out of the rebellion, we may regard the exhibition on the part of the mechanics, manufacturers, and farmers of the United States as respectable, though not so extensive as would have been expected in times of domestic peace. Yet the result may be regarded as a source of pride and gratification, not only to the individual exhibitors, but to the nation. Eight States, viz., New-York, New-Jersey, Massachusetts, Rhode Island, Connecticut, Vermont, Indiana, and Illinois, were represented by delegates, either representing the States or their Agricultural Societies. Twenty-five prizes were awarded to American contributors, also a complimentary testimonial presented to each of the States represented, in a fine, large, and beautiful Hamburg flag. Some two thousand sheep were exhibited, comprising nearly all the best breeds of Europe. It is believed to have been the largest show of fine-wooled sheep of modern times. The great *nurseries* of Merinos of Prussia, Saxony, and Silesia, were fully represented. Nearly all the continental breeds were present, some of them extensively, embracing all the best stock from England. It is a source of national pride to learn, that amid this fine display of sheep the United States stood foremost. Mr. George Campbell of West Westminster, Vermont, received the two highest premiums, amid three hundred and fifty competitors. Mr. C. exhibited twelve head of Merinos, which at the close of the exhibition were sold for \$5,000, to Count Sherrthoss of Silesia. It cannot be denied that the United States is the best sheep-growing country in the world, and yet the stock is necessarily limited to far less than the demand, owing to the wholesale slaughter to which this species of stock is subject from the thousands of worthless dogs which are permitted to prowl throughout the length and breadth of the country.

In regard to the trial of reapers the Commissioner remarks: "After a most thorough examination, trial, and practical test, before a committee of distinguished and competent gentlemen, representing eleven nationalities, and amid a host of competitors, we maintained our complete ascendancy in reaping machines."

The golden medal was awarded to C. H. McCormick of Illinois. The second prize for a reaping machine was awarded to a citizen of New-York.

The American exhibition attracted universal attention, as was manifested by the large throngs that continually gathered around it, and hundreds of orders were received for duplicates of the articles exhibited. The display of American farm implements will work a revolution in the mode farming in certain portions of Europe there represented. Many of the articles exhibited were secured, and are to form the *nucleus* of an *Agricultural Museum* to be established in Hamburg.

This exhibition will, no doubt, cause a large demand for many of our improved tools and implements of agriculture. The lightness and neatness of finish of American farm implements and machines, compared with those in common use in many parts of Europe, which are generally of the most rude and cumbersome character, will, no doubt, also lead to a decided improvement in their use in the character of farming in those countries.

Contributions toward the purchase and sending of American implements for exhibition to the amount of \$4,000, were liberally donated by leading mercantile firms in New-York city, and \$800 more by others in Philadelphia; to which, together with the appropriation of \$1,000 by the Legislature of this State for the payment of freights, we mainly owe whatever credit was gained for the United States by the laurels of our exhibitors.

Best System of Farming for Kentucky.

MESSRS. EDITORS—It is a subject of serious import whether or not it is our duty to change our system of farming, and if so in what direction that change should tend. By way of preface I will say that causes over which we have had no control, growing out of our unhappy civil war, have rendered our slave labor to a certain extent, unavailable and unprofitable—therefore suggesting to the mind of every sensible agriculturist, a change in our system of farming which will enable us to derive from the cultivation of the soil a sufficient profit to justify the outlay of capital, time and labor employed.

The question then is, in what should that change consist? I answer, plant less and graze more. As you are aware, our soil is mainly founded on a tough, yellow clay, over which we find a strata of rich loam, the result of ages of decomposed vegetable matter. I argue then that by throwing out much of our lands to grass and clover, we can by the grazing of cattle, horses and sheep, with far less labor, derive equal profits as we did by our former system of constantly stirring the earth and the consequent impoverishment of the soil resulting therefrom. The wonderful nutritive and fattening qualities of Blue grass combined with clover, has long been the subject of admiration to those who are engaged in the great business of stock raising. Indeed, I can assure you that it is no uncommon thing to see a lot of cattle, say of 4 year olds, turned off from our best Kentucky pastures in the fall without grain feeding, the beef of which would grace the stalls of any market in the world. I argue therefore that those farmers who have largely cultivated hemp and Indian corn, the latter of which is known to be an exhausting crop to the soil, will greatly consult their interest and future profits by throwing out such fields to grass and clover, thereby greatly improving the general beauty of farming lands, while they will lay the foundation for a constant and ever increasing source of profit in the future.

Ruemont, Fayette Co., Ky.

I. P. S.

BUYING CHEAP FRUIT TREES.

No man can obtain anything valuable without paying its full price. If he makes a purchase of a fine horse for a small sum, he will probably either find that the horse has some hidden disease—heaves—founder—spavin—ring-bone, or else that he has obtained the name of a cheating horse-dealer, which is still more undesirable. If he attempts to build a house at a lower contract price than the builder can afford it, he will ultimately discover that a good deal of bad material has been used, or that he has a long string of "extras," which, by dextrous contrivance, have been thrust in. It is so in buying fruit trees. If the purchaser finds "a lot" offered at low retail prices, he will probably discover that they have been badly grown, neglected, stunted, moss-covered—or have been badly dug up with chopped roots—or consist of some unsaleable varieties, or have been poorly packed, or the roots left exposed till they have become dry and good for nothing. There are various other ways of rendering trees of no value, which need not be enumerated.

Now suppose a purchase is made of one of these trees at five cents below the regular market price among the best nurserymen. The owner congratulates himself on having effected a saving of the sum of five cents. Now let us see how much he is likely to lose. If the tree is stunted, it will be at least three years before it can attain the vigor of its thrifty compeer. In other words, he sells three years of growth, three years of attention (if it gets any), three years of occupancy of the ground, and three years of delayed expectation—for the sum of five cents. Or suppose the tree has been purchased below price because it is the last in a pedlar's wagon, and has been dried or frozen. The owner digs the hole, pays for the tree, and sets it out—it will probably die—in which case, he only loses what he has paid, the amount of labor he has expended, and one year of lost time and expectation. He has gained nothing, as in the last instance. If the tree happens to live, the previous estimate will then apply. Or, again, suppose that he buys a tree, and saves five cents as aforesaid, because the quality of the sort, or the honesty of the dealer, as to its genuineness, may be questionable. After several years of labor and waiting, it turns out to be a poor sort, and the tree, being left unchanged, continues to bear this poor fruit for thirty years to come. The fruit being unsaleable, will in no case bring more than ten cents per bushel. In thirty years the average annual crop will be about three bushels, or ninety bushels in all—equal to nine dollars total value. Now suppose instead of this miserable specimen, the purchaser procures at full price a tree of one of the most productive and marketable varieties, such, for instance, as the Rhode Island Greening or Baldwin. The crop will always sell in market for at least twenty-five cents, and sometimes for fifty cents a bushel; and for the whole thirty years, will average at least eight bushels annually—sixty dollars for the thirty years at the lowest computation. Deduct nine from sixty (or the products of the first tree from those of the second), and we have fifty-one dollars, the difference in the profits of the two trees, being the amount lost by the purchaser of the first in his attempt to save five cents.

We wish to be distinctly understood. It is not the largest or finest looking trees that are the best. In fact, the eagerness to procure big trees at the expense

of a full proportion of roots, which it is impracticable to take up with such trees, often results not only in the loss of the trees themselves by death, but it frequently requires years for them to recover and regain their thrifty state. Neither is it necessary that the tree be as straight as a candle, for a few years' growth fills up the crooks in a trunk, and makes it as straight, or nearly so, as any other. The three great points are: To have healthy trees—to take them up with as perfect roots as possible—and to keep these moist and uninjured till they are set out again. These three requisites cannot be easily secured by taking large trees, while those of moderate or rather small size will readily furnish them all. Small trees are easily dug without mutilating the roots; they are packed for transportation safely and with facility; the labor of digging and packing and the cost of transportation are much less than with large trees; and they commence growing immediately, with little check in their vigor; and, if well cultivated, make the largest as well as the best trees at the end of five years. The late Dr. Kennicott, who was a successful nurseryman as well as orchardist, said, that of the trees which he sold to his customers, the full-sized symmetrical ones never grew so well as the smaller ones, possessing less beauty of form. The reason was a curious one—he could never succeed in persuading the owners to shorten-in the heads of the handsome trees, while he could induce them to prune or cut back the others according to any directions he might give.

To sum up—procure small, healthy, well-dug and well-packed trees of the best proved sorts only from reliable nurserymen; let them be well set out and well cultivated for successive years, and they will afford a profitable as well as satisfactory result.

REPORT ON GRAPES.

Delaware.—From these vines, second year in fruit, gathered 60 pounds of fruit. Some of the clusters weighed three to a pound. This is about good enough every way to be satisfactory.

Diana.—My vines were all young, but the fruit was very fine, almost equal to the Delaware. I shall be satisfied if I can always have as good.

Rebecca.—On dry soil it grows slow. The fruit is fine, but a little mildew was developed.

Concord.—This grape was never better with me. One of the most profitable grapes I grow. A few bunches showed mildew. It makes only a medium wine. It originated in the East, but improves as you go West.

To-Kalon.—This year was my first fruit of this grape. It certainly promises well on our warm soils.

Isabella.—A good crop, but injured by mildew and leaf blight.

Catauba.—Is generally healthy and ripens very well, and is about as profitable as Isabella.

Clinton.—Is growing in favor as a wine grape. I do not get as heavy crops as of Concord or Isabella. Perhaps I do not manage it properly.

Louisa.—Is no better or earlier than Isabella, and is subject to same objections.

Hartford Prolific.—Bears well and is healthy, but it is too low in quality for a vineyard.

I have a number of other kinds on trial, but shall increase my vineyard with Delaware, Concord and Diana, till something better is developed. These three will suit the palate and the purse for a while at least. We have a good soil and climate for the three last named, where they never fail to arrive at perfection. With these we can afford to watch and wait for something better to be developed.

It is proper to add that our season was very late and the fall quite wet, but nothing injured by frost. Few locations are more favored on account of frost.

Fredonia, Chautauque Co., N. Y.

A. S. MOSS.



ALBANY, N. Y., MARCH, 1864.

The Goodrich Testimonial.—From the proceedings at the Annual Meeting of the State Agricultural Society, it will be noticed that a movement was made for the purpose of presenting a Testimonial Fund to Rev. C. E. GOODRICH of Utica, in view of the long and laborious exertions he has made, with no pecuniary return, for the improvement in varieties and culture of that most important crop—the Potato. We give below the subscriptions thus far received:

Orange Judd, New-York, .. \$50	L. W. Rathbun, Otsego, \$5
Hon. E. Cornell, Ithaca, .. 50	Joseph Harris, Rochester, .. 5
Hon. Wm. Kelly, Rhineb'k, 50	Solon Robinson, New-York, 5
Col. L. G. Morris, Fordham, 50	H. T. E. Foster, Geneva, 10
G. H. Brown, Esq., Dutchess, 50	J. S. McDonald, Greenwich, 2
Hon. A. B. Conger, Haverst'w 50	E. S. Hayward, Brighton, .. 5
E. G. Faile, Esq., W. Farms, 50	Cash,
S. Campbell, Esq., N. Y. Mills, 50	Cash,
T. H. Faile, Esq., New-York, 25	J. McD. McIntyre, Albany, 5
J. O. Sheldon, Esq., Geneva, 25	Jas. C. Carter, New-York, .. 5
T. L. Harison, Esq., St. Law, 25	Cash,
S. Thorne, Esq., Dutchess, .. 25	Cash,
W. Chamberlain, Esq., do... 10	Luther H. Tucker, Albany, 10
Total to this date,	\$592.00

It is hoped that this amount may still be considerably enlarged, and contributions from gentlemen in this or other States who appreciate the labors of Mr. Goodrich, may be addressed to LUTHER H. TUCKER, Albany, N. Y., Treasurer of the Fund, who will duly acknowledge the same in the columns of this paper. We submit the subject, with no other remark than the brief expression of our most cordial approbation of the movement, to the sympathies of the agricultural community. Mr. Goodrich is now in very feeble health, and it may cheer the last hours of his sojourn among us, to know that what he has done meets the approval of the farmers of the country.

Feeding Wheat.—This subject has attracted considerable attention owing to the changes the present season in the usual relative prices of the different grains. A subscriber in Olmsted county, Minnesota, writes us that prices with him are as follows:

OATS,	50 cents per bush.	INDIAN CORN, none to be had.
WHEAT, ..	70 do. do.	BARLEY, ... 60 cents per bush.

He has read what we have heretofore published on the subject, and is feeding wheat to his sheep, as being the cheapest grain for the purpose.

In an editorial on page 33 of the present volume, we cited Mr. Griffin's views as to wheat being cheaper than oats as a food for horses at double the price per bushel. A reader inquires for particulars as to amount to be fed, in reply to which Mr. G. writes:

"I should think 2 quarts a good feed for a horse which was working moderately, and double that quantity for one that was at hard work. I should prefer having it ground and put on cut hay. I have no experience in feeding oil cake to sheep. I have a flock of 50 South-Down ewes, which I am feeding clover hay, with the addition of ten quarts of barley per day. They are in a very healthy thriving condition."

Pomology in the West.—It must be gratifying to the friends of American Horticulture to notice the full attendance and intelligent discussion which characterize the society meetings of the present season. Reports from Illinois, Ohio, Missouri and Indiana, lead us to think that in several, if not all, of the States named, the sessions of these Pomological congresses have excited more than the usual interest, in the face of scarcity of labor, injuries from frosts, and general devotion to

the great and overruling subject of the war. We regret to have so inadequate space for the publication of the proceedings at such gatherings. But we cannot forbear referring to the very great development in Western Horticulture evidenced in every line of these proceedings, the cultivation and acquirements of those who have taken part in them, and the information they are eliciting as to the capacities and exigencies which meet the orchardist throughout the great tract covered by their operations.

We observe from the proceedings of the Missouri State Horticultural Society, for a full report of which we are indebted to our friend, the President, HENRY T. MUDD, Esq., that a joint Meeting of that body and the State Society of Illinois, is contemplated, to be held at St. Louis in the course of the coming autumn. This design, if the season is such as to favor its being carried out, would doubtless receive the co-operation of all the leading Fruit Growers of the West, as well as attract the attendance of many from the Eastern States—notwithstanding a thousand miles is quite a distance to go for a fruit show. A committee on the part of the Illinois Society had been previously appointed, and similar action was now taken on the part of the horticulturists of Missouri.

Feeding Off Growing Wheat.—A friend would be glad of more light as to the practicability of feeding off a crop of grain. He says:

"Having a fine crop of wheat on my farm near Burlington, New-Jersey, with a very strong growth, I desire to follow the English custom of turning my flock of long wool sheep on it; but not being able to obtain any information as to the propriety of eating the tops off in this climate, I avail myself of the extended circulation of your valuable journal, to ask for the experience of any of your readers who may have made this experiment, and think it would benefit many farmers, if they knew it could be done without injury to the crop. I wish to know—

- 1st. Does it injure the yield of the grain?
- 2d. Will it retard the ripening of the crop, and if so how long?
- 3d. At what time should sheep be turned on the field?
- 4th. Would cattle be preferable to sheep to eat it off?

"For early lambs it would be a great boon, if it can be done without injury to the crop."

We have known in frequent cases of the adoption of this practice in this country, but are unable to answer our correspondent's questions in detail. Will some of our readers please reply?

Ayrshires.—We learn that Mr. G. VAN VALKENBURGH of Troy, has recently added to his herd of Ayrshires the bull Argyle 5th, purchased of H. H. Peters of Southboro, Mass., sired by Eglinton, 21—dam Brenda, 28. Also two thorough-bred cows—Lucy Neal, red and white; dam Lucy Green; grand-dam Nan; sire imported by Ezra Nye; and Flora Gray, white with red spots, bred by Hungerford & Brodie; dam imported Mary Gay; sire Kelburn, imported by Hungerford & Brodie. Both of these cows were purchased of A. M. Tredwell of Madison, N. J.

The Short-Horn Market.—As illustrating the present state of the market for Short-Horn cattle from herds of established reputation, the following facts are interesting. D. McMILLAN, Esq., of Xenia, Ohio, informs us that since the 1st of October last he has sold 16 head, of ages ranging from two months to seven years, 4 bulls and 12 females—at an average of \$220 per head, the prices ranging from \$45 to \$1,000 each. He adds: "I fear our country will regret having neglected the breeding of Short-Horns to the extent it has for some years past. We cannot do without them, and any temporary neglect they may receive only tends to produce what has

been the experience of past years—such extravagant prices hereafter, that they are placed beyond the reach of the masses, and tends to defer their coming into general and practical use."

It is proposed to establish a general Agricultural Society for the six New-England States. The subject was brought forward at the February meeting of the Massachusetts State Board of Agriculture, but accidentally escaped our notice until too late to refer to it in the last issue of this paper.

A committee was appointed, Dr. G. B. LORING, chairman, to consider the subject, and under their report the following resolutions were adopted:

Resolved—That the organization of a New-England Agricultural Association is worthy of the consideration of all who are interested in the Agriculture of this section of our country, and are desirous of its development and improvement.

Resolved—That the various Agricultural Associations in the New-England States are hereby urged to send delegates to a meeting to be held in Worcester on the 2d day of March next, for the purpose of considering the question of the proposed organization.

Resolved—That a copy of this report be forwarded to the Presidents of all the existing agricultural societies in the New-England States, by the Secretary of this Board.

Delegates have since been appointed from several States to attend the proposed meeting, and we trust the subject will excite sufficient attention to secure a full representation from Agricultural Associations throughout New-England, at Worcester next week.

Much of our space is occupied with the proceedings of the State Agricultural Society at its Winter Meeting held in this city last week.

Proposals were presented from the cities of Rochester and Utica, for the holding of the next State Fair, which will come up for definite consideration at the next meeting of the Board. Meantime, as will be seen from an advertisement to that effect, other localities interested can also prepare for a hearing, if desired, before the final decision of the question.

The holding of a Trial of Implements and Machinery during the coming summer was determined upon, provided satisfactory arrangements can be made for the purpose. This subject will also be decided at the next meeting of the Executive Committee, which will consequently be one of unusual importance.

The meeting passed off very pleasantly, and showed a renewed interest in the Society and its operations which we trust may long continue to be manifested, in a similar or still greater degree.

Marblehead Cabbage.—We have been very much pleased with both the *Stone Mason* and the *Mammoth Marblehead*. The former, for its great reliability in heading, and good quality. The latter grows very large on very rich soil, with good culture. Col. Lockwood of Rolling Prairie, Wis., informs me that he raised heads last year that weighed from 30 to 40 pounds. Mr. Ormsbee reports setting out one for seed, that weighed 52 pounds. We saw him shipping some very fine ones to Milwaukee. L. L. F.

"Rural Affairs."—We have received the three volumes, bound in cloth, and must confess that they contain a much greater amount of valuable information, on Agriculture, Horticulture, Domestic Animals, Country Dwellings, Flowers and Rural Economy, than we ever have found elsewhere at three times the cost. They are crammed full of useful thoughts and suggestions, and will be worth to any man who owns a homestead, be it ever so small, many times their cost. We challenge any man to read them without getting his money's worth in information that he can realize in dollars and cents. F.

Monthly Statement of Agricultural Exports.—The following table shows the exports from New-York to foreign ports of certain leading articles of domestic produce for the month of January:

	1862.	1863.	1864.
Beeswax, lbs.,.....	20,192	10,979	38,381
Breadstuffs:			
Wheat Flour, bbls.,....	281,141	213,730	166,768
Rye Flour, bbls.,.....	531	661	400
Corn Meal, bbls.,.....	7,900	11,708	12,987
Wheat, bush.,.....	1,282,523	874,018	1,282,313
Rye, bush.,.....	104,842	11,708	105
Oats, bush.,.....	1,952	92,063	1,333
Barley, bush.,.....		50,989	
Peas, bush.,.....	2,295	11,484	37,830
Corn, bush.,.....	1,056,896	321,741	10,999
Cotton, bales,.....	46	1,655	30
Hay, bales,.....	2,759	428	1,886
Hops, bales,.....	2,507	5,619	3,929
Oils—Lard, galls.,.....	6,398	23,068	10,509
Linseed, galls.,.....	4,496	1,312	1,564
Provisions:			
Pork, bbls.,.....	21,139	14,011	14,876
Beef, bbls.,.....	2,078	3,620	2,679
Beef, tcs.,.....	10,826	10,781	12,844
Cut Meats, lbs.,.....	14,572,213	24,222,698	15,745,514
Butter, lbs.,.....	1,857,372	2,343,584	3,317,125
Cheese, lbs.,.....	3,591,798	2,689,573	2,743,234
Lard, lbs.,.....	12,489,474	11,229,016	3,265,832
Tallow, lbs.,.....	3,129,559	3,175,887	4,193,548
Tobacco, crude, pkgs.,...	11,043	5,395	7,445
do. manuf., lbs.,...	68,843	171,058	224,567

These figures show a falling off in wheat flour and Indian corn, and a gain in wheat. There has also been a large decrease in bacon and lard. The Journal of Commerce thinks "the present aspect of political affairs in Europe is more hopeful of good to those interested in American Produce, than any which has been presented for several months."

Newburgh Bay Hort. Society.—The Annual Meeting of this Society was held Feb. 2, and the following officers were elected for the ensuing year:

President—Wm. A. Woodward.
Vice Presidents—Rev. Jno. Forsyth, D. D., O. S. Hathaway.
Secretary—Wm. L. Findlay.
Treasurer—Daniel Smith.
Executive Committee—H. W. Sargent, C. Gilbert Fowler, Henry Cornell, E. H. Clark, H. W. Murtfeldt, Charles Dubois, James H. Palmer, Thos. H. Roe, J. W. H. Chapman, and Dan'l Brinckerhoff.

The Treasurer submitted a detailed report of the receipts and expenditures of the Society during the past year, of which the following is a summary:

Receipts from all sources for the past year,.... \$609.00
 Expenditures for premiums and bills,..... 409.00

Balance to credit of the Society,..... \$200.00

An additional sum of \$105 remaining in bank from the fund of 1862, makes the whole amount in the hands of the Society, \$305.

It was resolved that an exhibition be held on the 16th and 17th of June next.

Not the Largest Hog.—The Boston Cultivator remarks:

The American Agriculturist for February has an article headed "The Largest Hog ever seen in America," from which it appears that the great hog from Tompkins county, N. Y., has lately been slaughtered in New-York, and that its live weight was 1272 lbs., and its dressed weight 1174 lbs.—six pounds less than that of the hog bred by Peter W. Jones of Amherst, N. H., and slaughtered in this city about a year ago.

The State Agricultural Rooms in this city contain a stuffed hog which was stated to have weighed over sixteen hundred pounds when slaughtered. His age was seven years and he came we believe from Trenton Falls something like twenty years ago. Tompkins will have to "try again."

Dent Corn.—Mr. G. Van Valkenburgh of Troy, has left at our office some ears of well ripened Dent corn, grown on his farm near that city. He says he has planted it for three years past—that it ripens as well as the Dutton, and has proved much more productive than that variety.

Agricultural Societies.

Pennsylvania.—The Annual Meeting of the Pennsylvania State Agricultural Society was held at Harrisburg, Jan. 19, when the following officers were elected:

President—THOMAS P. KNOX.

Vice-Presidents—1st district, Wm. H. McCrea; 2d district, Frederick A. Shower; 3d district, Chas. K. Engle; 4th district, J. E. Mitchell; 5th district, Adrian Cornell; 6th district, Wm. H. Holstein; 7th district, Isaac W. Van Leer; 8th district, Tobias Barto; 9th district, C. B. Herr; 10th district, John H. Cowden; 11th district, John B. Beck; 12th district, Daniel G. Driesbach; 13th district, Geo. D. Jackson; 14th district, Amos E. Kapp; 15th district, Christian Eberly; 16th district, Daniel O. Gehr; 17th district, Thaddeus Banks; 18th district, B. Morris Ellis; 19th district, James Miles; 20th district, Michael C. Trout; 21st district, John S. Goe; 22d district, John Murdock, jr.; 23d district, Wm. Bissell; 24th district, Joshua Wright.

Additional Members of the Executive Committee—Wm. Colder, J. R. Eby, B. G. Peters, James Young, John H. Zeigler.

Corresponding Secretary—A. Boyd Hamilton.

Chemist and Geologist—S. S. Haldeman.

Librarian—John Curwen, M. D.

The time for holding the next annual exhibition was fixed upon the 27th, 28th, 29th and 30th days of September next. No election of place has yet been made, but the Secretary, A. B. Longaker, Esq., was directed to invite proposals and subscriptions from such county societies or localities as may be desirous of securing the next fair, and make report thereon at the quarterly meeting of the Executive Committee in March next. The members present exhibited much interest in the affairs of the society, and spoke most encouragingly of its present prospects and future success.

Ohio.—The following is the newly elected list of members of the Ohio State Board of Agriculture for 1864:

President—NELSON J. TURNER, Circleville, Pickaway Co.

Rec. Secretary—Wm. F. Greer, Painesville, Lake Co.

Cor. Secretary—John H. Klippart, Columbus, Franklin Co.

Treasurer—David Taylor, Columbus, Franklin Co.

Directors—Thos. C. Jones, Delaware, Delaware Co.; James Fullington, Millford Centre, Union Co.; Wm. B. McLung, Troy, Miami Co.; Darwin E. Gardner, Toledo, Lucas Co.; Wm. De Witt, Cleveland, Cuyahoga Co.; Wm. R. Putnam, Marietta, Washington Co.; Danl. McMillen, Jr., Xenia, Greene Co.

The next State Fair will be held at Columbus, Sept. 13, 14, 15 and 16, 1864.

Ohio Wool Growers.—At the recent meeting of this Association at Columbus, the following officers were elected:

President—R. M. MONTGOMERY of Mahoning.

Vice President—John Gurney of Licking Co.

Secretary—S. Park Alexander of Summit.

Treasurer—Col. S. D. Harris of Cuyahoga.

Directors—Col. Messenger of Marion Co.; S. S. Matthews of Licking Co.; and John Sears of Medina Co.

President—JOHN F. ANDERSON, of South Windham.

Secretary—Dr. Ezekiel Holmes, of Winthrop.

Treasurer—Wm. S. Badger of Augusta.

Trustees—Calvin Chamberlain, Foxcraft.

Seward Dill, Phillips.

Canada West.—The Annual Meeting of the Kingston, (C. W.) Electoral Division Agricultural Society, took place January 16th, when the following gentlemen were appointed officers and directors for the current year:

President—THOMAS BRIGGS, Esq.

1st Vice-President—Professor James Williamson.

2d Vice-President—George M. Wilkinson, Esq.

Sec. and Treas.—Thos. Wilson, Esq.

Directors—Michael Flanagan, Augustus Thibodo, Geo. Baxter, S. T. Drennan, William Rudston, C. F. Gildersleeve, and John Creighton, Esqrs., Mayor.

Montgomery Co., Pa.—At the meeting of the Montgomery County Ag. Society, Feb. 6, it was resolved to hold the Annual Exhibition on the 4th, 5th and 6th days of October next, and the following officers were elected:

President—WM. B. ROBERTS.

Vice President—Samuel Roberts.

Treasurer—D. C. Getty.

Rec. Secretary—Geo. F. Roberts.

Cor. Secretary—Wm. H. Holstein.

Executive Committee—Samuel K. Stout, John Shepherd, Samuel S. Smith, Samuel Strepper, Joshua Ashbridge, Edwin Moore, George Geatrell and Joseph Hood.

HYDRAULIC CEMENT MORTARS.

A subscriber to the *CO. GENT.* sends you the enclosed circular, as perhaps a proper answer to an inquirer under the head of "Inquiries and Answers," page 48.

Water lime differs from hydraulic cement; it will not set under water, but when set in the open air may be immersed in water without injury. Hydraulic cement sets both in and out of water, but as moisture is essential, masonry laid in cement mortar must be exposed to rains, or occasionally moistened.

Farmers are little aware of the many uses cement may be put to. With a little study they may construct their own drains, concrete their cellars, pig pens and other floors, and permanently fix their heavy gate posts so that frost cannot heave them. See an article on this subject by R. K. D., some months since.

Your correspondent of 21st ult., complains that his water lime does not set. If he means hydraulic cement, the reason may be because the weather is too cold.

R. K. D.

Hydraulic Cement sets under water better than in the open air, and is far preferable to lime in the preparation of mortar for masonry not only under water, or in wet places where lime would be destroyed, but also in dry work. It is secured in tight barrels, lined with paper to protect it from the action of the air. It absorbs carbonic acid and water, and consequently deteriorates and eventually spoils. With proper care it will keep a year or more, but must be kept under cover in a dry place.

As it sets rapidly, it should be mixed only in such quantities as may be required for immediate use. Sufficient water should be employed to form a paste of medium stiffness—care being taken not to *drown* the powder, but to wet it thoroughly and by degrees with water, and to incorporate it thoroughly.

Whether alone or mixed with sand, the paste or mortar must always be used before it commences to set, as it cannot afterwards be distributed without a material loss of Hydraulic energy. The sand proper to be used with Cement should be entirely free from earthy impurities. Its grain should be angular and sharp and of moderate fineness. Sea sands, by reason of the existence of salt, should be avoided if practicable, though they may be used if none other can be procured, but should be exposed to the action of the weather long enough to deprive them of their saline matter. Pure sand, when rubbed between the fingers, will leave no stain, and immersion in limpid water will not discolor it. Sand performs no chemical part in hydraulic mortars, but is employed chiefly for reasons of economy. It prevents however, to some extent, shrinkage of the mortar, which some very rapid-setting Cements are liable to, making it uniform and preventing cracks. The too abundant use of it is a very common error.

Experienced engineers in charge of public works usually mix their Cement with sand in the proportion of one part of Cement with one and a half to two of sand. It is a common practice with others to mix in the proportion of one part of Cement to three and sometimes four of sand. If the Cement is pure, fresh and thoroughly mixed, the latter proportion will make good mortar for all general purposes.

All mortars should be prepared, if possible, under cover, to prevent too rapid drying, which takes place in warm weather, and drowning by rains. A Cement of moderate energy in setting is better than one of very rapid setting properties. The former makes the hardest and most enduring mortar; the latter is used to advantage only in masonry under water, where the action of the water operates mechanically against the work before the Cement has time to set.

It is necessary that the stone or brick to be cemented be free from dirt and well moistened when the mortar is applied; if dry, the stone or brick will absorb the moisture from the Cement too rapidly and prevent adhesion during the process of crystallization. In warm climates, masonry should during the progress of the work, be secured from the intensity of the sun's rays, to prevent too rapid drying. The frequent exposure of Cement masonry to moderate rains, is serviceable during the construction of the work. During warm dry weather, an occasional sprinkling with water would answer the same purpose.

Recipe for Preparing Glue for Use.

I have much pleasure in sending you the following recipe for making liquid glue, said to have been discovered by a French chemist. It is valuable, as it does not gelatinize, putrefy, or ferment and become offensive, and can be used cold for all purposes of glue, in making or mending furniture, or other things that are not exposed to water.

In a wide-mouthed bottle dissolve eight ounces of best glue in a half pint of water, by setting it in a vessel of water and heating it till dissolved. Then add slowly, constantly stirring, two and a half ounces of strong aquafortis, (nitric acid.) Keep it corked, and it will be ready for use.

J. P.

Inquiries and Answers.

Water Lime in Mortar.—Permit me to ask through your readers, how it would do to mix good water lime with stone lime, in building cement walls, (gravel walls,) and what proportion is considered best, or even wholly water lime? I built a sorghum house of gravel last fall, which I did not get finished on account of wet weather. In the outside walls I put about a quart of water lime to the bushel, but in the centre wall I did not put any. I find that the inside wall scales for about six inches above the ground, while the outside stands like stone. A little information would oblige McALLISTER. *Cass Co., Mich.* [It improves common lime mortar to add a portion of water lime. Some think it even better than all water lime for cellar walls, &c., but this is probably not the case. We have just examined the outside underpinning of a cellar built three years ago. A part of the mortar contained three parts of common lime, and one part water lime. This is harder and has stood much better than another portion built exclusively of common lime. We have also examined another piece of work built 11 years ago, a part of it with water lime mixed as above, but the proportions were not determined. The part containing the water lime is quite hard, and has stood well, while the other is much scaled off. In all these instances the work is exposed to the weather. Where the water from a tin conductor had poured copiously against the wall containing the hydraulic cement, the frost had loosened the mortar, but in no other case. These results may vary with the purity of the different materials.]

Frozen Fruit Trees.—We have had very cold weather here. Our fruit trees are badly frosted, and some of them, (the peach and dwarf pears) I think are killed, and apple trees of last year's setting are also badly frozen—all of the last years' growth on them is killed. Having quite a number of trees, including apple, cherry and standard pear affected in this way, will you or some of your readers tell me through your paper what to do with them? Shall I cut off the frozen limbs, or will it do to wait till after the sap starts in the spring? W. G. L. *Southport, Ind.* [The best way would be to cut back to the buds on the uninjured wood. If this is properly done, and with a view to form handsome trees, little injury will result to the trees where they have been but partially affected. It would be well to defer the work till towards spring, when the extent of the injury can be more accurately ascertained; and it may be better, for the same reason, to wait till the buds begin to expand, in cases where there is not much pruning to be done. But if the formation of a good shaped tree requires the cutting away of much uninjured wood, the work should be done by all means before the buds swell, as severe pruning afterwards always checks growth. The practice is familiar to nurserymen of cutting down crooked or stunted trees to a strong bud or shoot near the surface of the earth. This, growing vigorously, usually makes a straight, handsome tree. Doubtless this course might be imitated on frost injured trees.]

Analysis of Fruits.—Is there any work published explaining the composition of fruits, trees and plants—that is one that you could recommend as giving the proper information, so that we could apply to the roots what was needed by them to perfect the fruit and wood? M. E. *Auburn, N. Y.* [We know of no work of the kind that would be of any value to our correspondent. It has long since been determined that special manures, as pointed out by analysis merely, and applied to the soil, are of no particular value—in fact, experience directly contradicts the theory which once prevailed on this subject. The best special manures for fruit trees, are the plow, harrow, spade, hoe, and pruning-knife, interspersed with suitable proportions of old-fashioned yard manure or compost, with a very small proportion of lime or ashes.]

Turnips.—In one of the last CULTIVATORS I noticed an English table showing the amount of produce that it took to make a pound of beef. By that it took 150 pounds, or 2½ bush. of turnips to make one pound of beef. If this is true, I should like to see in a future number the ingenuity of an editor displayed on the profitableness of raising turnips to make beef. A FRIEND. [If our correspondent proposes to make his beef of turnips alone, we do not think he would find it a profitable business. On the other hand, if he will feed them with straw, hay and grain, we think experience has proved that it will pay.]

Patent Office Reports, &c.—I would like very much to procure the Reports of the Patent Office and Agricultural Department, which I suppose are distributed gratis,

"especially to politicians." If you think it at all likely that I can get them by application, will you give me the address of the proper officers of these Departments to apply to? G. W. [The proper person to apply to is the member of Congress from your district, who has a large number of copies of both Reports at his disposal.]

Broom Corn.—I wish to get some information in regard to raising and curing broom corn. If you, through your numerous readers, can furnish some hints, it would oblige a good many of your readers no doubt. I see by the New-York papers, that broom corn is quoted at 8 to 10 cents per pound. I think it would be a profitable crop to raise. G. W. D. *Illinois.* [The soil for broom corn, in order that the crop may be successful, should be of the best quality, both for fertility and working—river flats are usually selected for this purpose. If the soil has been kept clear of weeds it will greatly facilitate cultivation and economize labor, as the plants at first are slender and feeble, and easily mistaken for grass and weeds. The crop may be planted either in drills three feet apart, or in hills one-and-a-half by three feet. It is usually planted about twice or three times as thick as Indian corn, and the best crops are obtained, but more labor required in thinning, by planting largely of seed and reducing the number of plants at the first hoeing. Some cultivators break back the brush just before the maturity of seed; others cut off the tops without this previous preparation. The seed is removed by a sort of coarse comb. The brush or tops are dried by laying them on horizontal poles, and successive tiers placed one above the other, leaving spaces for the air between each. Sheds or lofts may be used for this purpose. Temporary structures for drying are made of rails, the brush being laid on pairs of rails placed horizontally, so as to form a structure twelve feet square, or equal to the length of the rails, and each successive tier formed by resting the horizontal rails on an additional rail placed under each of their ends. By selecting the larger rails for one side, one side gradually becomes higher than the other, and admits a board roof at the top, when the height has reached eight or ten feet. The quantity yielded per acre, is usually about 700 lbs. of brush, but sometimes it amounts to 1,000 lbs.]

Will our correspondents who have had full experience, please give the details of culture, the best sort, distance, quantity of seed, mode of cleaning, &c.]

Small Fruits in Young Orchards.—Intending to plant pretty extensively in the spring of the small fruits, strawberries, raspberries and blackberries, I wish to inquire how it would do to put them between the rows of a young bearing orchard, leaving say six feet on each side the rows of trees for the cultivator? My reason for putting them there is, that I have no other ground in so good a state of preparation. M. A. *Summit, N. J.* [The plan proposed will answer well under the circumstances, provided the orchard is quite young and the trees small. If the land receive the cultivation indispensably required for the success of the small fruits, the roots of the young trees will soon extend into their territory, and receiving the benefit of the enriched and good cultivation, will make a rapid growth, and soon become too large for the best success of the small fruits, which, consequently, must be removed in a few years.]

Remedy for Leaky Roofs.—I wish to inquire through the Co. GENT. if any of its readers know of any method to stop a leaky roof in consequence of the roof being too flat. It is shingled with the best of pine shingles, and cannot by its position be made any steeper. Is there any cheap substance in the form of cement that could be put on so as to effectually stop its leaking? W. P. [The best way is to raise the roof so as to give the shingles more slope. But where this cannot be done there are several ways of making a water-tight flat roof. One is to make the roof of thoroughly seasoned matched boards, placing white lead paint in the joints, and keeping the surface well painted. Another is the common tin roofing. Another is a kind of felt, manufactured expressly for this purpose in different places, specimens of which have now stood the trial of several years, but we are unable to say which of the different kinds is best. Still another mode is to cover a smooth board roof with a mixture of sand and gas tar, afterwards sprinkling white sand over the whole surface. We are told that an excellent cement is made and sold in barrels, to be applied by simply spreading it over the roof like a thin coating of mortar. Will some of our correspondents who have tried any of these modes for ten years or more, please describe the process more in detail and report the results?]

Various Inquiries.—You will much oblige me by answering the following through *THE CULTIVATOR*. Will the dwarf prolific (preparturiens) walnut stand the cold, and how is it propagated? Which is the best hardy raspberry? Your opinion of the Adirondac grape? What is the difference between Geraniums and Pelargoniums? Is there any? It is recommended to shorten the peach shoots in the spring; I have been doing it the end of July, but as I did it only last season, I cannot tell the result. One tree not touched made a shoot of over seven feet. To prune it back two-thirds or one-half does not seem correct. Those I pruned in July afterwards made shoots eight or nine inches, and look strong and sound. A. FRANCIS, M. D. [We cannot give the desired information in regard to the dwarf prolific walnut. For home use exclusively the Orange raspberry is the general favorite. Knevett's Giant, Fastolf and Franconia are also valuable sorts. The Hudson River Antwerp is a famous variety for market, but succeeds only in certain localities. The American Black Cap raspberry, of which the best variety is the Doolittle, is very hardy, prolific, reliable and valuable. The Adirondac grape has not been sufficiently tested in different localities to determine its value. Pelargoniums were classed by old botanists under the generic head of Geranium, but this old genus has been sub-divided, and Pelargoniums now include those that have seven stamens and unequal sized petals, and geraniums, such as have ten stamens, and equal sized petals. It will do to shorten back the peach about the close of summer; if done sooner, small and feeble shoots may start, which may not endure the winter so well. We see no objection to pruning back long shoots, as circumstances may require, or cutting them off entirely, if that will help the shape of the tree. Even two or three years' growth may come off without detriment. The peach grows very freely after having been cut back, and it generally happens that the operation is performed too sparingly on thrifty, well cultivated trees.]

Standard Pears.—In the last November number of *THE CULTIVATOR*, you state in your comments upon Dr. Fisher's pears, that he had some unusually large samples of Flemish Beauty pears, and that it was "not a variety on which great dependence could be placed." Having planted a pear orchard with some sixty trees of that variety, I am anxious that you would describe its character; and also would like a description of the following varieties: Beurre d'Anjou, Boussock, Beurre Bosc, and Sheldon. Please give your opinion of their comparative merits—their exemption from or liability to blight or canker of the fruit, as well as the quality. Also, would like to know as to their productiveness, early bearing, and time of ripening. If you will do me this favor, (as well as many of your subscribers,) you will greatly oblige one who has scarcely been able for a year to see even a notice of these varieties or any standard pear in any agricultural paper in the State—dwarf pears, grapes, and strawberries, having almost entirely engrossed the attention of horticultural writers. A SUBSCRIBER, Geneva, N. Y. [The Flemish Beauty is one of the finest of all pears, and, in addition to the large size, fine form, and excellent quality of the fruit, the tree is a good and handsome grower, and one of the hardiest, known to withstand intense cold—for this reason one of the best for the northern parts of the Western States. Its drawbacks are, a liability to blow from the tree before fully ripened, and in some places to crack badly. Usually, however, it is a very fair, smooth fruit. By avoiding planting in very windy places the first-mentioned difficulty is overcome, and as the fruit is always better when picked some days before maturity, this difficulty is not, usually, a formidable one. The cracking of the fruit may become so in future. On the whole, while the Flemish Beauty is in most places one of the most valuable sorts, caution would dictate the propriety of not placing it above several others of the best autumn varieties for general value. The four varieties mentioned, viz., Doyenne, Boussock, Beurre Bosc, Anjou, and Sheldon, are among the very best autumn sorts. The Boussock resembles the Virgalieu or White Doyenne, but is larger and not so high flavored. It has proved a valuable market sort in Western New-York. The Beurre Bosc is superior to it in quality, is a large and fine fruit, excellent for market, with only two drawbacks—the tree is a moderate and crooked grower, and might, therefore, perhaps do better by being grafted standard height on some other thrifty, hardy tree; and the wood is rather tender for enduring our severest winters. John Morse of Cayuga Bridge, who has raised it extensively for market, regards this as a serious objection, remarking, if it were not for the occasional very severe winters that occur, it would be unsurpassed in

value. The Anjou, which ripens a little later than these two, is a moderate, but healthy and hardy grower, and a uniform and moderate bearer. The fruit is large and very good. Although the crops are not heavy, it is a valuable market sort. The Sheldon, a late autumn variety, is the most delicious of any here mentioned. The tree is a fine and free grower, and a good bearer after it has attained considerable size. The fruit is liable to vary somewhat in quality. As it is a new sort, further experience may be required to determine its exact position in the list of merit.]

Diseased Grape Root.—Enclosed I send to you a few small bunches taken from the roots of a grapevine, which was received from Pennsylvania last fall. There are a large number of them on its roots. Never having seen them on vines grown here, I wish to inquire what causes them, whether injurious to the vine, and if so, whether they would spread to the roots of other vines if they run together? Last fall I saw some several times as large upon the roots of a vine which had been obtained from a distant nursery. Is it a disease or the work of insects? Is there any remedy for it? H. G. Middlesex Co., Mass. [The specimen sent was perfectly dry and much broken when it reached us, and, consequently, little could be seen. The small fibres—the only portion of the root sent—appeared to contain a few small excrescences, and an imperfect and dried specimen of the white aphid was seen on one part. We are not aware that the aphid has been known to attack the roots of the grape, as it does that of the apple. In the latter instance, these insects, when numerous, produce large knots or excrescences, and when they envelop the whole root, diminish the vigor of the tree. Whenever the first indications occur, the surface earth should be dug away, and strong soap-suds applied, either of whale-oil or common soap. When abundant, the trees should be all dug up and burned, and the ground cultivated for a time with something else.]

Grafting the Vine.—Will you or some of your subscribers answer through *THE CULTIVATOR*, the following questions: When is the best time to graft the grapevine? I have several Isabella and Catawba vines which I would like to graft with the Delaware grape. The best method of grafting them, splice or cleft, waxed or covered with ground? The proper time for cutting the scions? JOHN L. SCHULTZ. [Samuel Miller of Calmdale, Pennsylvania, who has had much experience in grafting hardy grapes, has furnished us the following answer to the above inquiries:—"As early in the spring as the ground can be got away from the stock to be grafted upon, clean away around the stem two or three inches deep, saw or cut off the vine smooth; then prepare your graft, (which should have been cut from the vine in the early part of the winter,) as shown in figure 1. If your stock is thick, say one inch or more in diameter, cut



Fig. 1.



Fig. 2.

out a wedge, see figure 2, to correspond with the wedge on graft fig. 1; if the stock be less than $\frac{1}{2}$ of an inch in diameter, then merely split down clean as in the usual way of cleft grafting, but if the graft be not held firmly, it is well to tie around the split with a bit of matting or strong thread, which will rot off before doing any damage. When you have inserted the graft, draw the earth in and press firmly around the joint where operated upon, and up to and barely exposing the bud, filling in with dry mold if the earth be wet. Use no cement whatever; I believe it is a great evil. Be sure to cover your graft with loose straw or some kind of rubbish that will not pack tight; this is to keep the frost from hoisting out the graft, in case freezing occurs afterwards, which frequently is the case, as I have grafted in February sometimes, as well as to shade the bud and keep the air off somewhat—a necessary precaution. When the graft begins to grow, the natural or stock suckers must be kept down, or they will soon rob the graft. I have usually succeeded in this way with about 80 per cent., while I hear universal complaints of failure. For root grafting in the house, my best success has been obtained when done in the saddle mode. And this done late in the spring when the vines begin to grow." Our correspondent will find a figure, with directions for root-grafting the grape, on page 213 of Vol. III of *RURAL AFFAIRS*.]

Sowing Grass in Winter.—Will you or some of your correspondents answer through *THE CULTIVATOR* whether timothy seed, sowed in wheat in winter, will come good or will

the action of the frost kill the seed? N. EMINGER. [If timothy seed is sown in winter, it will lie without sprouting until the approach of warm weather, when it will germinate and grow if kept slightly covered and moist. We have sown timothy seed late in autumn, and brushed it in, and found it to come up the next spring and do well, but such an experiment as this should only be made on light soil that will not crust.]

Corn Planters, &c.—Who makes the best corn planter, hand and horse power, and what is the price of same, and where procurable? M. G. Washington, D. C. [Good corn planters are offered for sale at most of the large agricultural implement stores. We are unable to say which are the best; among those we have tried, Emery's and Billings' have succeeded well. For those working with horse power the cost is usually about \$15—hand machines are less in price.]

Dent Corn.—Please tell me what is Dent corn, and how it compares in productiveness with Tuscarora, Dutton, and other well known varieties. M. GARRETT. Dist. of Col. [The Dent is a large variety of corn, cultivated in the Middle and Southern States, the grains less elongated towards the cob than the Gourdseed, and taking its name from the indentation on the outer part of each grain. It is one of the best varieties in places where it will ripen, but will not suit the short summers of the more Northern States.]

Horse-Hoe—Hurdles.—Where can I get a "horse-hoe?" I want something like Garrett's, which is used in England to cultivate crops drilled in about seven inches apart. Where can I buy hurdles for folding sheep? X. I. X. [We do not know of any place where ready-made hurdles are sold, as they are bulky and cannot be transported long distances. The implement nearest resembling Garrett's Horse-hoe, is an attachment of blades to Seymour's Wheat Drill, but we are not acquainted with its practical value or present success.]

Straw-Cutters and Root-Slicers.—Please name one or two of the best straw-cutters and root-cutters, in your answers to correspondents. R. W. S. Ottawa, C. W. [We have not had sufficient opportunity to test the different kinds, so as to make a reliable comparison of their merits. There are several good root-slicers to be found at agricultural implement ware-houses. Of the various straw-cutters, we think those only should be selected that are driven by horse-power; and if corn-stalks are to be cut, the slice should not be over one-fourth of an inch long, in order that the cut stuff may be soft and easily eaten. Those having knives cutting upward, are more apt to keep clean, and the knives less liable to become dulled, as sand and earth drop from them. It is the common opinion that cutting straw, &c., by hand, does not pay at the present high prices of labor.]

Fire Proof Buildings.—It has been proposed to build a brick house with a slate roof, for greater safety from fire. Is there no kind of reliable fire-proof paint, or means to render wood buildings as safe as those of brick? A house and barn each has water close by—is there a cheap fire engine so that one man could extinguish an incipient fire? An engine called the Aquarius is said to enable one to do so—costs \$10—but we have never seen it in Maine. F. W. Wayne, Me. [Fire-proof paints are offered in market, but we have not had an opportunity of testing their value. The small portable engine spoken of would be of great value for small or low buildings, but does not throw water very high.]

Pea Vine Clover.—What is the Pea Vine Clover, and how does it compare in point of productiveness with Sapping and Red Clover? M. G. Washington. [The Pea Vine is the large variety of the Red clover; grows taller, larger, and coarser than the common variety, and has been specially recommended for plowing in as a manuring crop. For general purposes, however, it is not regarded by most farmers as equal to the common.]

Salt as a Manure.—What is the action and particular benefit of common salt as a manure? I have heard of its being used to prevent the rust in wheat and oats, and that it is generally beneficial as a manure for green crops, hay, &c. In many sections of the West the raising of oats has been abandoned on account of the rust preventing the crop maturing. If the use of salt will remedy this evil, many of your western subscribers will be much benefitted by the knowledge. I, for one, would feel very much pleased to hear from any of your correspondents who may have had experience with it, and would propose the following questions: 1st. Will salt prevent rust in oats and wheat? 2d. Will it increase and strengthen the straw?

3d. Will it increase and improve the grass crop? 4th. What quantity per acre should be applied, and at what time? Any information on the subject will be thankfully received by an INDIANA FARMER. [Salt, like all special manures, gives results widely varying from each other, according to soil and circumstances, and hence it is very differently rated by experimenters. John Johnston thinks it has produced a decided increase in the crop when applied to wheat—other experimenters have found no advantage in it. It is recommended as useful for pastures. But we want farther experiment with it to enable us to decide on its real value. It is claimed as useful in preventing rust, which claim may be doubted; and it is thought to increase the moisture of the soil, but it is obvious that five or six bushels per acre (its usual rate for application, which would be only a film thinner than bank-note paper,) would form no comparison in value with a single shower of rain. Salt applied in large quantities destroys vegetation, but at the rate of twenty bushels per acre, never proves any detriment to wheat or other farm crops.]

Setting Fence-Posts.—I wish to inquire through the COUNTRY GENTLEMAN, the best manner of setting fence-posts in wet clay land, liable to heave with the frost? I understand that in Columbia Co., N. Y., they sharpen the posts and drive them in with a sledge. Would such posts be as liable to heave as posts that are large at the butt and tapering upward; and can they be driven far enough into the ground without splitting the top of the post by driving, or is a hole dug part of the way? Wishing to build some fence soon, any information on the subject will be very acceptable. E. M. S. [Driving in sharpened posts with a sledge is a very imperfect mode, and can be adopted only for temporary purposes. If a hole is previously made with a crow-bar it would be better, but even this cannot be recommended, for the small and pointed post is diminished in firmness, and the earth cannot be beaten hard and solid, as when a hole is dug. If the ground is wet, the posts will not only decay much sooner than on dry land, but will be far more liable to heaving. On wet ground, therefore, the posts should, if possible, be set on an underdrain, and if fine ground is rammed compactly around them, it will allow the water to escape quickly down in the drain. The following modes are, however, worthy of adoption in any case to secure the posts from heaving. One mode is to bore a two inch auger hole through the post near the bottom, drive in a hard durable pin so as to project a few inches on each side, then set the post in the hole, first placing a large or flat stone on each end of the pin,



Fig. 1.



Fig. 2.



Fig. 3.

and then ram the earth firmly above, as the hole is filled, fig. 1. A second and better mode is to cut a notch on each side of the post near the bottom, and then place the points of two stones in these notches, as shown in fig. 2. As there is no side strain on the posts near the bottom, these notches may be cut in deeply without endangering its strength. Old fences which have been heaved by frost, may be restored to their original position by digging a hole down on one side of each post and under it, and then dropping the whole post together. A notch may be then cut on one side of each post, and a stone placed in each notch, as shown in fig. 3. Fill the hole again, beating it solid all the way up, and the post will be immovable.]

Scours in Sheep.—Say to T. H. L. that the best remedy for scours in sheep is melted tallow—half a gill to a gill. The best shape to administer it is in the common tallow candle. Set the sheep on end, open the mouth, and shove down two pieces of candle each about 3 inches in length. I have never known it to fail of a cure. WOOL GROWER.

Tobacco.—Could you or some of your subscribers, give through THE CULTIVATOR, a good method of manufacturing leaf tobacco into plug or chewing, and oblige J. E. Miami Co., Ind.

Millet.—When shall I sow the common millet? Is it an exhausting crop? J. O. H. Kentucky. [Farmers differ as to the time of sowing, but some of the most successful prefer early in summer. It is not a severely exhausting crop.]

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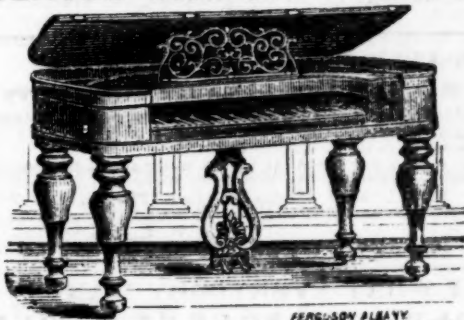
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